

New!

The **essential** magazine for Amiga enthusiasts

# AMIGA SHOPPER

## SuperTest:

Modem mania. We help you choose your ideal modem.

Issue **48** April 1995 **£3.95**

## ShopperDisks

Packed with complete programs, utilities and **more!**

## ShopperReviews

- Make the most of your A1200's expansion capabilities with the new Squirrel SCSI2 interface from HiSoft.



- The latest CD-ROM releases reviewed and rated.

- Add the professional touch to your rendered images with the Pro Textures Combo from Premier Vision.

- Plus, Motion Master Volume II, Pegger 2, InfoNEXUS and Easy Ledgers 2.

## ShopperTutorials

### Assembler

Upgrade your lottery program by adding a random number generator to it.

### Comms

Get into the Internet for free! We tell you all about Fidonet and how it works.

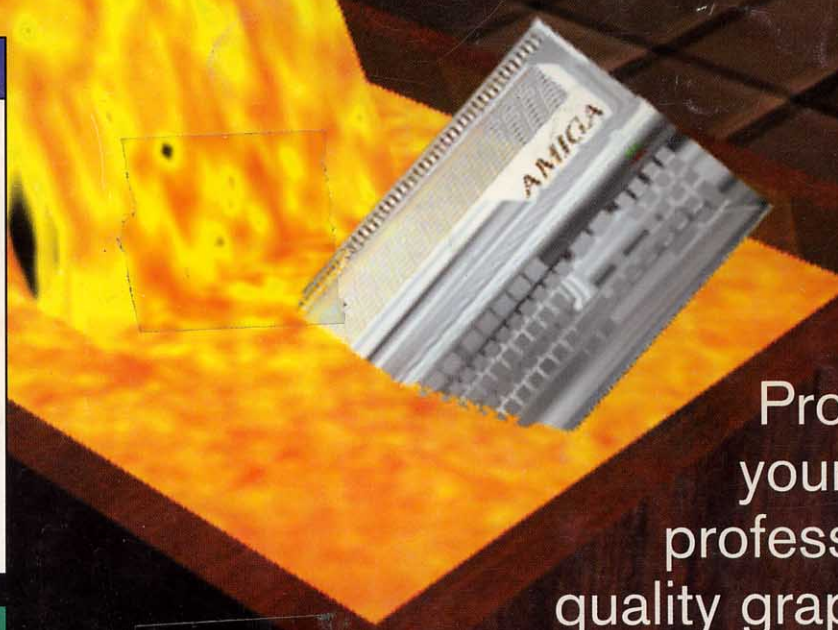
### C

Add the finishing touches to your Finder program with the latest in our series of C programming tutorials.

### Music

Make beautiful music with your Amiga. We take a fresh look at the music capabilities of your machine.

# Red-hot graphics



Produce your own professional quality graphics. We tell you how...

## Photogenics tutorial

Get the best out of Almathera's brilliant, new image processing package. Hints, tips, tricks!

**PD** Unleash your Amiga's graphics power.

From the makers of

**AMIGA**  
FORMAT

**Future**  
PUBLISHING  
Your game-free guarantee





# FIRST COMPUTER CENTRE

## HOW TO ORDER

Order by telephone quoting your credit card number. If paying by cheque please make payable to: "FIRST COMPUTER CENTRE". In any correspondence please quote a phone number, post code & Dept. Allow 5 working days cheque clearance.

### SHOWROOM ADDRESS:

DEPT. AS, UNIT 3, ARMLEY PARK COURT, STANNINGLEY RD, LEEDS, LS12 2AE.

1% surcharge on Amex

## DELIVERY TARIFFS

- Standard delivery £1.95
- 2-3 Week Days £2.95
- Next Week Day £4.95

Delivery subject to stock

- All prices include VAT @ 17.5%
- Large showroom with parking
- Multi-million pound company
- Overseas orders welcome
- Educational purchase orders welcome

## OPEN 7 DAYS A WEEK

Prices are correct at the time of going to press. Please check our latest prices before ordering. All sales are subject to our standard terms & conditions (copy available upon request). E&OE.

## Telephone 0113 2319444

24 HOUR MAIL ORDER SERVICE FAX: 0113 2319191  
NEW! BBS Modem sales & technical line Tel 0113 2311422

EASY ACCESS FROM M62, M1 and the A1  
M62/M621 A64/A58 A647 ARMLEY TOTAL SERVICE STATION  
FARNELL'S LIVING WORLD  
ARMLEY GYRATORY  
KIRKSTALL RD  
LEEDS CITY CENTRE  
FIRST COMPUTER CENTRE

From the M1 follow signs for the M62. Take A647 Bland Rd turnoff from M62. Follow signs for A58. This merges with Armley gratory.  
From the A1 take the turnoff for the M62. This merges with the A58 (by passing Leeds town centre) which meets the Armley gratory.

## AMIGA REPAIR CENTRE

We offer a FREE quotation on your Amiga or any peripheral (monitors, printers etc). A delivery tariff of just £5.00 is charged, or alternatively you can visit our showroom. We can also arrange a courier pickup at an additional cost of £11.00.  
Tel. 0113 2319444

## PRINTERS

All our printers come with ribbon/toner, printer drivers (if available), paper & cables!!

### Canon

**NEW LOW PRICES!**

- Canon BJ10sx £184.99
- NEW! Canon BJ200ex £279.99
- 3 page a min speed, 720x320 DPI
- Canon BJC600 Colour £434.99
- new bubble jet from Canon
- BJ10 Autosheetfeeder £49.99
- Canon BJC4000 Colour £379.99

## CITIZEN

COMPUTER PRINTERS

Citizen printers have a 2 year guarantee

ABC Colour printer £154.99

simple (as easy as ABC) to use 24 pin printer. Comes as standard with 50 sheet Auto sheet feeder. Tractor feed optional at £27.99

only £134.99 if bought without the colour option

- Swift 200 Colour £181.99
- Same out as the 240 but with less facilities
- Swift 240 Colour £218.99
- 24 pin, 240cps draft, 10 fonts, quiet mode, 240cps
- NEW! Project II Colour £269.99
- new inkjet printer with built in auto sheet feeder
- Swift Auto Sheet feeder £79.99

## EPSON

- Epson LX300 Colour £149.99
- 9 Pin 80 column colour
- LQ150 Colour £209.99
- 24 Pin Draft 240cps, LQ79cps
- Stylus 800+ £249.99
- 48 Nozzle inkjet 360 x 360 dpi (max) 100 sheet feeder
- Nuzzle inkjet £449.99
- Colour Inkjet, 360 x 360 dpi, 720 x 720 (on special paper)

## HEWLETT PACKARD

- HP 320 portable £234.99
- NEW! HP520 mono £279.99
- HP 500 Colour £279.99
- NEW! HP 560 Colour £439.99
- 4 times faster than the HP500C! All HP printers come with a 3 year warranty

### Star

COMPUTER PRINTERS

- Star LC100 Colour £124.99
- Star have added 3 new dot matrix printers to their range featuring a built in 55 sheet auto sheet feeder
- Star LC90 9 pin mono £109.99
- Star LC240 24 pin mono £125.99
- Star LC240C 24 pin Colour £144.99
- Tractor Feed for the new range only £15.99
- Star SJ144 Colour £239.99
- Stunning affordable colour printer. 3 PPM, low running costs

## CONSUMABLES

QTY	DS/DD DISKS	Branded DS/DD
10	£3.49	£4.99
30	£9.99	£13.99
50	£15.99	£19.99
100	£29.99	£37.99
200	£54.99	£69.99
500	£134.99	£162.99
1000	£259.99	£299.99

All disks are guaranteed 100%. All branded disks come with labels  
Disk labels 500 £6.99 1000 £9.99

### Ribbons

- Citizen Swift mono ribbon £4.99
- Citizen Swift Colour ribbon £13.99
- Star LC100 mono £3.69
- Star LC200 mono £4.99
- Star LC100 colour £7.99
- Star LC200 colour £12.99
- Star LC240-300 £8.99
- Star LC240/3200 Colour £11.99
- Re-Link Spray for mono ribbons £11.99

### COVERS

- Star LC100/20 cover £4.99
- Citizen Swift/ABC £5.99
- HP 500/550/510 £5.99
- Star LC240-300/100/200 £5.99

### PREMIER Ink Refills

save a fortune in running costs with your ink/bubble jet. Compatible with HP, Canon, Star, Citizen & many others.

- Single refills (22ml) £6.99
- Twin refills (44ml) £12.99
- Three colour kit (66ml) £19.99
- Full colour kit (88ml) £27.99
- Bulk refills (125ml) £24.99

### Cartridges

- Canon BJ10 cartridge £18.99
- Double life 500 cartridges £24.99
- HP550/500 Colour cartridge £24.99
- Star SJ48 cartridge £18.99
- Star SJ144 mono or colour (3 pack) £21.99

### Miscellaneous

- Printer Switch Box 2 way £12.99
- Printer Switch Box 3 way £17.99
- Printer Stands (Universal) save on space £4.99
- 3 Metre printer cable £6.99
- 5 Metre printer cable £8.99
- 10 Metre printer cable £12.99

## SUPRA MODEMS

### SupraFAX Modem 288

Super fast! V34, 28,800 bps + 14,400 Fax

Phone for more details only £209.99

### SupraFAX Modem V.32bis

This modem has full 14400 baud. includes V32bis, V32, V22bis, V22, V21, MNP2-5, V42, V42bis, Class 1 & 2 commands, 9600/14400 Group 3 Fax. Includes free modem comms (not Fax) s/w & cable

only £169.99

## USRobotics

WE ARE PREFERRED USR DEALERS

### NEW! Sportster 288

only £234.99

features V34, 28,800 BPS, BAPT approved

If you thought V32bis was fast try V34 (28,800 bps).

- Sportster 2496 +Fax £104.99
- Sportster 14400 Fax £138.99

## WORLDPORT

- WorldPort 2496 +Fax £181.99
- WorldPort 14400 +Fax £205.99

Amazing price reduction on Courier Dual Standard V34 Fax

Now only £327.99

Modem cable for Sportster and Courier £9.99

USR modems come with a 5 year warranty & are BAPT Approved

## SPECIAL OFFERS!

- Distant Suns 5 £35.99
- Personal Paint V4 £19.99
- Technosound Turbo £20.99
- Technosound Turbo 2 £28.99
- Wordworth 2 AGA with Print Mgr & Day To Day Planner £19.99
- Workbench 2.1 software and ROM upgrade (complete with manuals) only £74.99
- XCOPY 2 inc hardware £24.99

## ACCELERATORS

### VIPER 68030 TURBO only £149.99

68030 accelerator running at 28MHz expandable to 8 Mb 32 Bit RAM (see RAM prices) Optional SCSI adaptor.

### ADDITIONAL 32 BIT RAM

Just add the price of 32 MB RAM in this advert to the Viper board to get your configuration price

### SUPRA 28 ACCELERATOR

for the A500/A500+ & A1500/2000 28 Mhz, uses A500 side port so there is no internal fitting

now only £127.99!

## MISCELLANEOUS

**NEW LOW PRICES!**

- Amiga 500/600/1200 PSU £34.99
- Amiga 500/500 Plus keyboards £45.99
- Amiga 500/500 Motherboard £29.99
- Amiga 500 Plus cases £12.99
- QUALITY MOUSE MATS £2.99
- 10 CAPACITY DISK BOX £0.99
- 50 CAP LOCKABLE DISK BOX £3.49
- 100 CAP LOCKABLE DISK BOX £4.49
- \*90 CAP STACKABLE BAXX BOX £9.99
- \*150 CAP STACKABLE POSSO BOX £17.99
- \*add £3.00 delivery if purchasing just one Posso or Baxx box. Normal delivery when purchased with other product or when buying 2 or more.
- Amiga A500 DUST COVER £2.99
- AMIGA 600 COVER £2.99
- AMIGA 1200 COVER £2.99
- 14" MONITOR DUSTCOVER £5.99
- Keyboard Membrane Covers £14.95
- AMIGA TO SCART CABLES £9.99
- STD 1.8 MTR PRINTER LEAD £2.99
- MODEM/NULL MODEM CABLES £9.99
- AMIGA CONTROL STATIONS
- A500 or 1200 VERSION £36.99
- A600 VERSION £29.99

## NEW LOW PRICES!

### SupraFAX Modem 144LC

V.32 bis (14400 baud !)

Low cost version of the classic V32bis Fax modem. Features as below but class 1 fax only and LED display

now only £99.99

Supra modems are not BAPT approved, however they perform as well & often out perform BAPT approved modems. Supra Modems have a 5 year limited warranty

## DISK DRIVES

### AMITEC

1 mb 3.5" drive only £54.99

### Cumana 3.5"

£49.99

1 meg external drive. The best name in disc drives

- Power Drive HD 1.44Mb external drive £64.99
- A600/1200 internal drive £39.99
- A500 internal drive £39.99
- A4000 internal HD drive £99.99

## MONITORS

All our monitors are UK spec. All monitors come complete with a free Amiga lead!

### Microvitec Autoscan 1438

£289.99

28 dpi, 15/38 KHz, all Amiga modes, AGA compatible. No audio, tilt & swivel stand.

### NEW! Philips 8833 MKII

This famous Stereo, colour monitor is back. Complete with 12 month on site maintenance

only £234.99

tilt and swivel stand only £9.99 when purchased with monitor

## RAM EXPANSION

- PRIMA A500 512K RAM (noclock) £19.99
- PRIMA A500 Plus 1 Mb RAM £34.99
- PRIMA A600 1 Mb RAM (withclock) £39.99

### 32 BIT RAM (for A4000 etc)

- 1 Mb SIMM £39.99
- 2 Mb SIMM £99.99
- 4 Mb SIMM £149.99
- 8 Mb SIMM £284.99

## CHIPS

Co pro's for use with A4000 & accelerators

SPEED	PLC	PGA
25 Mhz	£45.99	£49.99
33 Mhz	£53.99	£89.99
50 Mhz	N/A	£137.99

- 1mb by 8/9 SIMMS (1 Mb) £31.99
- 4 Mb by 9 SIMMS (4 Mb) £124.99
- 1 Mb by 4 DRAMS (1Mb) £39.99
- 1 Mb by 4 ZIPS (1/2 Mb) £32.99
- 256 by 4 ZIPS (each) £5.99
- 256 by 4 DRAM (DILs) (each) £5.99
- Kickstart 1.3 £23.99
- Kickstart 2.04 £30.99
- Kickstart 2.05 (for use in A600) £30.99
- Fatter Agnes 8372A £26.99
- Super Denise £18.99
- 6571-0326 Keyboard controller £13.99
- CIA 8520A I/O controller £10.99

### PRIMA CO-PRO & RAM

Realise the full potential of your A1200 with this tripartite expansion. inc real time clock

- 1 MB RAM £91.99
- 2 MB RAM £139.99
- 4 MB RAM £194.99
- 8 MB RAM £339.99
- 2 MB & 33 MHz CO PRO £194.99
- 4 MB & 33 MHz CO PRO £244.99
- 8 MB & 33 MHz CO PRO £389.99

## Hard Drives

### 2.5" Hard Drives for 600/1200 with installation kit

inc. software, cables and instructions

- 60Mb...£99.99
- 139Mb...£149.99
- 80Mb...£109.99
- 240Mb...£204.99

### Seagate 3.5" Hard Drives with A1200 installation kit

(We recommend 3.5" Seagate drives for their ease of installation. Although other makes are compatible, Seagate are easier to install because of their size) inc. software, cables and instructions

- 260Mb...£159.99
- 350Mb...£219.99
- 420Mb...£234.99
- 540Mb...£269.99
- 720Mb...£359.99

### 3.5" H/drive upgrade kit no HD only £18.99

\*Just Add £10.00 for fitting 2.5" drives or £35.00 for fitting 3.5" drives

### PRIMA 1200 External Hard drives

- PRIMA HD-350 (350mb) £299.99
- PRIMA HD-540 (540mb) £345.99
- PRIMA HD-730 (730mb) £419.99
- PRIMA HD-1000 (1Gig) £584.99
- PRIMA HD-2100 (2.1Gig) £939.99
- PRIMA HD-4300 (4.3Gig) £1934.99
- PRIMA HD-9100 (9.1Gig) £2699.99

Full Selection of SCSI drives available £POA

## CD ROM Drives

### PRIMA A1200 CD ROM DRIVES

Built in power supply, allows up to 6 SCSI devices to be attached. Full SCSI compatibility. Complete with PRIMA Shareware Volume 1 and interface software

- PRIMA case/controller £129.99
- PRIMA TRIPLE SPEED £299.99
- PRIMA QUAD SPEED £364.99

### A1200 OVERDRIVE CD-ROM

Now with Alien Breed, Project X, F17 Challenge, Qwak, Brutal Football

only £229.99

Internal SCSI CD-ROM drives for the A1500/2000/4000 (with suitable SCSI interface). All drives include driver s/w & will read CDTV/CD32 & PC ISO 9600 standard discs. External kits for A3000 also available

- NEC Multispin 2X1 Internal £167.99
- 265Ms Access time 355KB transfer rate
- TOSHIBA 3501B Quad Speed £254.99
- 385Ms Access time 300KB transfer rate

External version £259.99

GVP A4008 SCSI controller £129.99

## GENLOCKS

VHS VHSO SVHS SVHSO Video8 Hi8

### hama ON DEMO NOW!

### The Professional answer

### hama 292 £279.99

S-Video, and composite compatible

### hama 290 £688.99

S-Video, and composite mixing, plus far more

### hama A-CUT Video Editor £185.99

### GVP Genlock £289.99

features professional SVHS output

### Rocgen Plus £164.99

includes dual control for overlay and keyhole effects, extra RGB pass thru. Check for compatibility

### Rendale 8802 FMC £164.99

### Rocgen Rockey £164.99

For creating special effects in video production with genlocks.

## SCANNERS

### Alfa Scan only £114.99

hand held scanner with 256 greyscales and up to 800 DPI

add £25.00 for OCR software

### Alfa Data Alfa Colour Scan

18 bit scanner with 256K colours inc colour correction

only £329.99

### Power Scanner V4 £119.99

With the latest version 4 s/w for bright & sharp grey scale performance. Flexible scanned image display manipulation options, plus Clean up, embolden, resize & flip.

### Colour version only £239.99

### EPSON GT6500 Colour Flatbed

only £579.99 phone for details

### Art Department Pro

### Scanner software £99.99

compatible with Epson ES300C, ES600C, ES800C, GT6000, GT6500 & GT8000

## Tabby Graphics Tablet

AWARDED 100% AMIGA COMPUTING!

The amazing new graphics tablet for the Amiga developed with the help of First Computers. 94% rated in Amiga Shopper August issue! Requires 2.04 WB or above

only £59.99

## ROMBO PRODUCTS

### VIDI 24 RT NEW £139.99

Real time colour digitising from any video source. Full AGA support. Requires 12 Volt PSU...£12.99

### VIDI 24 RT PRO £214.99

24 bit quality real time colour digitising from any video source. Full AGA support. Requires 12 Volt PSU...£12.99

### VIDI 12 AGA £59.99

Full support for AGA chipset. Colour images captured in less than a second, mono images in real time with any video source. Multitasking s/w, cut & paste.

VIDI 12 AGA Plus Take 2 only £69.99

## MICE & TRACKERBALLS

### Alpha Data Mega Mouse £12.99

90% rating. 400 Dpi

### Zydec Trackball £29.99

### Alfa Data Crystal Trackball only £34.99

## Stereo/Speaker Systems

### Aerospace Deluxe £47.99

### ZyFi Stereo System £33.99

### ZyFi Pro Stereo System £57.99

## SOFTWARE

### MISCELLANEOUS

- Distant Suns 5 £35.99

### MUSIC/SOUND

- Aura 12 bit sampler £74.99
- Deluxe Music Construction Set v2 £59.99
- Pro Midi Interface by Microdeal £24.99
- Techno Sound Turbo 2 £28.99
- Tecno Sound Turbo £20.99

### PROGRAMMING

- Amos Professional £47.99
- Amos Professional Compiler £24.99
- Bliz Basic 2 £53.99
- Devpac 3 £50.99

### PUBLIC DOMAIN Top 20

- National Lottery Predictor (PDA040) 1 disk £1.50
- Clipart 10 Pack (PDA025) 1 disk £12.50
- Clipart Disk 1 (MacArt) (PDA001) 1 disk £1.50
- Clipart Disk 9 (Garfield) (PDA009) 1 disk £1.50
- Clipart Disk 4 (Food) (PDA004) 1 disk £1.50
- Ami Base Pro v 1.8 (PDA001) 1 disk £1.50
- 9 Fingers Demo (PDA033) 2 disk £2.25
- Edword Pro V4 (PDA005) 1 disk £1.50
- Easy Calc Plus (PDA006) 1 disk £1.50
- Klondyke AGA (PDA013) 3 disk £2.75
- Mindword AGA Demo (PDA015) 1 disk £1.50
- Motowarol invaders AGA (PDA016) 2 disk £2.25
- Magic Workbench Utils (PDA017) 1 disk £1.50
- PG Task Emulator (PDA019) 1 disk £1.50
- Spectrum Emulator version 1.7 (PDA027) 1 disk £1.50
- Spectrum Games Disk. (PDA028) 1 disk £1.50
- Fit Chicks AGA (PDA030) 2 disk £2.25
- Mega Ball AGA (PDA030) 1 disk £1.50
- Relokick 1.3 (PDA011) 1 disk £1.50
- Andys WB 3 Utils (PDA011) 1 disk £1.50
- First Fonts Disk 2 (PDA002) 1 disk £2.50
- First Fonts Disk 1 (PDA001) 1 disk £2.50

### UTILITIES

- Directory Opus 4 £51.99
- GP FAX 2.3 software £49.99
- XCopy Pro V2 plus hardware £24.99

## VIDEO AND GRAPHICS

- Deluxe Paint 4 AGA £39.99
- Make Path for Vista £19.99
- Personal Paint V4 £19.99
- Vista Pro 3 (4Mb required) £29.99

### WORD PROCESSING/DTP

- Final Writer DTP NEW! £72.99
- Final Copy V2 UK, New Low Price! £48.99
- Pagestream 3 U.K. version £249.99
- Pro Page V4 £109.99
- Prostate 4.3 WIP £39.99
- Wordworth 2 AGA inc Print Mgr £19.99
- Wordworth 3 £79.99



The essential magazine for Amiga enthusiasts

# AMIGA SHOPPER

**Editor:** Sue Grant

**Consultant Editor:** Nick Veitch

**Group Art Director:** Matthew Williams

**Art Editor:** Nick Aspell

**Production Editor:** Anna Grenstam

**Technical Writer:** Graeme Sandiford

**Contributors:** Richard Baguley, Toby Simpson, R Shamms Mortier, Jason Holborn, Paul Overaa, Jeff Walker, Clive Parker, Gary Whiteley, Steve Kennedy, John Kennedy, Tim Tucker

**Photography:** Pete Canning

#### Advertising

If you want to place an advertisement in Amiga Shopper, contact Louise Woods on ☎ 01225 442244 or you can E-mail her at lwoods@futurenet.co.uk

**Advertisement Manager:** Louise Woods

**Sales Executives:** Diane Clarke and David Matthews

**Group Ad Manager:** Mary de Sausmarez

**Production Manager:** Richard Gingell

**Production Co-ordinator:** Charlotte Brock

**Ad Design:** Lisa Withey

**Production Technicians:** Jon Moore, Mark Gover, Simon Windsor, Chris Stocker, Brian Hook

**Group Production Manager:** Judith Middleton

**Production Controller:** Claire Thomas

**Production Control Assistant:** Janet Anderson

**Paper Controller:** Fiona Deane

**Admin Asstt:** Suzannah Angelo-Sparling

**Circulation Manager:** Jon Bickley

**Distribution:** Sue Hartley

**Publisher:** Simon Stansfield

**Joint Managing Director:** Greg Ingham

**Chairman:** Nick Alexander

#### Subscriptions:

If you want to take out a subscription to Amiga Shopper, then turn to page 60. If you already have a subscription, but have a query, write in to: Future Publishing Ltd, FREEPOST (BS4900), Somerton, Somerset TA11 6BR, or ☎ 01225 822510

#### Annual subscription rate:

The subscription rate for 12 issues of Amiga Shopper including postage is £47.40 (UK), £55.80 (EC), £68.40 (Rest of World)

**Printed by:** Southernprint Ltd, Poole, Dorset  
ISSN 0961-7302 Printed in the UK

#### News Trade Distribution – UK and Worldwide:

Future Publishing ☎ 01225 442244

#### Editorial and Advertising:

30 Monmouth Street, Bath, Avon BA1 2BW

☎ 01225 442244 Fax: 01225 446019

E-mail: amshopper@cix.compulink.co.uk



#### Your Guarantee of Value

This magazine comes from Future Publishing, a company founded just eight years ago but now selling more computer magazines than any other publisher in Britain.

#### We offer:

**Better advice.** Our titles are packed with tips, suggestions and explanatory features, written by the best in the business.

**Stronger reviews.** We have a cast-iron policy of editorial independence, and our reviews give clear buying recommendations.

**Clearer design.** You need solid information, and you need it fast. So our designers highlight key elements in the articles by using charts, diagrams, summary boxes, annotated photographs and so on.

**Greater relevance.** At Future, editors operate under two golden rules:

1. Understand your readers' needs. 2. Satisfy them.

**More reader interaction.** We draw strongly on readers' contributions, resulting in the liveliest letters pages and the best reader tips. Buying one of our magazines is like joining a nationwide user group.

**Better value for money.** More pages, better quality: magazines you can trust.

#### The home of Britain's finest computer magazines:

Amiga Shopper, Amiga Format, Amiga Specials, Amiga Power, PC Answers, PC Plus, PC Gamer, Sega Power, Commodore Format, PCW Plus, ST Format, GamesMaster, Amstrad Action, PC Format, Total!, Super Play, Edge, MacFormat, Future Music, CD-ROM Today.

**Copyright © 1995 Future Publishing Ltd.** No part of this magazine may be reproduced without written permission. We welcome contributions for publication but regret that we cannot return any submissions. Contributions are accepted only on the basis of full assignment of copyright to Future Publishing. Any correspondence will be considered for publication unless you specifically state otherwise, and we reserve the right to edit letters published.

**ABC Member of the Audit Bureau of Circulations**  
Audited circulation January – June 1994: 31,602

48

Inside

# Issue

*After a month in the job at the helm of Amiga Shopper, I feel like I'm getting to know you and what you want from your Amiga magazine...*

**W**e've had hundreds of Reader Survey's sent to the Amiga Shopper office in response to our request last issue – thanks to everyone who took the time to fill one out.

Most people were very enthusiastic about the new layout and design of the magazine and many of you welcomed the Coverdisks. Some people complained that there was far too much programming altogether in the issue – however, other people asked for more. What a fickle lot you are! You'll find that in this issue we still have our programming tutorials, but the general mix of features and reviews is much more varied. So there should be something for everyone.

You've given me plenty of ideas for features and other areas you want to see covered in the mag – all of your responses have been noted and will be taken seriously. And we'll bring you a full run-down of the Reader Survey results in the May issue.

One thing that was crystal clear from every survey I have read so far is that you are all passionate about, and dedicated to, your Amigas, so you will be pleased to hear that David Pleasance and his team are all confident that they will be producing and developing machines again very soon – see the news pages starting on page 12 for more information.

On Coverdisk 1 this issue we have HelmLite, a special version of the multimedia authoring package from Eagle Tree Software



and on ShopperChoice we have three extremely useful Public Domain programs, including the amazing ABase database. To find out how to use both of your disks, turn to page 6 for our Coverdisk instructions.



Also in this month's issue, Graeme visited 3D graphics rendering company Premier Vision (the team are pictured below left) and reports on what he found there. Richard Baguley (we can't seem to get rid of him!) and Clive Parker tests loads of modems in our Supertest (see picture above) and tells you which are the best of the bunch.

And we have an interview between our American correspondent, R Shamms Mortier, and Jeff White from Visual

Inspirations, the company behind ProTextures (see page 48 for Graeme's review).

Along with our C, Assembler and Comms tutorials, Tim Tucker waxes lyrical about making music on the Amiga, starting on page 86 and Graeme begins his six-part Photogenics tutorial on page 76.

We have reviews of the Squirrel SCSI interface and we've decided to start a regular section (two pages this month) on the latest CD-ROMs available, turn to page 45 for this month's pick of the crop.

We've all enjoyed putting this issue of Amiga Shopper together and we hope that you will enjoy reading it! ■

*Sue Grant*

Sue Grant, Editor.

Turn the page for the contents of issue 48



The **essential** magazine for Amiga enthusiasts

# AMIGA SHOPPER

## Shopper**Features**

### Premier Vision **16**

We sent **Graeme Sandiford** to Premier Vision, producers of professional graphics, to talk with Andy Bishop and Andy Gould. He brings back the exclusive pictures and a report of what Premier are up to.

### Supertest **26**

Which modem should you choose? **Richard Baguley** and **Clive Parker** review the state-of-the-art in modems in this month's Supertest.

### Amiga Answers **62**

Every month we ask you to send in your questions and every month Amiga Shopper's panel of experts attempt to solve all your Amiga-related problems.

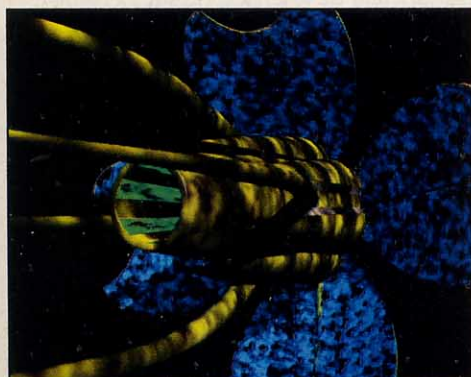
### Public Domain **90**

Unleash the graphics power of your Amiga. **Jason Holborn** has put together a comprehensive guide to quality graphics software to be found in the PD libraries.

## Shopper**Reviews**

### Squirrel **38**

**John Kennedy** finds out how you can make the most of your A1200's limited expansion capabilities with HiSoft's new fully-working SCSI2 Squirrel interface.



**16** A still from the Sonic Surfer's music video, created by Premier Vision.

## Shopper**Reviews**

### Pegger 2 **41**

**Nick Veitch** reviews a new runtime compression and decompression utility that could revolutionise your use of 24-bit graphics.

### Easy Ledgers 2 **42**

Want a professional Amiga accounts package? **Graeme Sandiford** reckons Easy Ledgers 2 might come in handy.



### CD-ROMs **45**

Light ROM, Amiga Raytracing I & II and CAM are the three CD-ROMs that **Graeme Sandiford** looks at this month in our regular CD-ROM section.

### Pro Textures **48**

Give your rendered images that final, professional touch with Premier Vision's 24-bit textures. **Graeme Sandiford** reports.

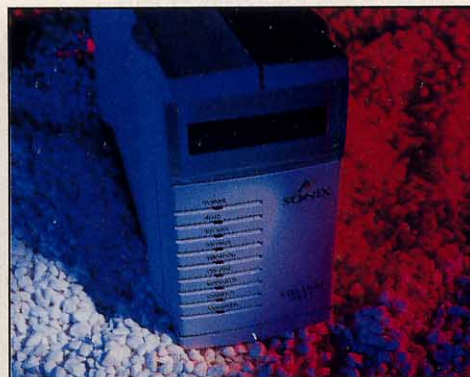


### Motion Master II **49**

**Graeme Sandiford** reviewed Motion Master Volume I last month. He was so impressed that he couldn't wait to get his hands on Volume II – another great collection of LightWave animation utilities.

### InfoNEXUS **53**

**Graeme Sandiford** takes a close look at Optonica's new file managing program which could help put your life in order!



**26** We give you the low-down on the state-of-the-art modems.

## Shopper**Tutorials**

### Photogenics **76**

**Graeme Sandiford** brings you the first instalment of a six-part series which will cover all the important features of Almathera's new image processing package.

### Assembler **78**

**Toby Simpson** upgrades his lottery program by introducing a random number generator.

### Comms **82**

**Mat Bettinson** tells you all about the amateur communications network, Fidonet.

### C Programming **84**

Add the final touches to your file finding program with **Toby Simpson's** C programming series.

### Music **86**

It's easy to make beautiful music with **Tim Tucker** and your Amiga – he proves that your machine is a powerful tool in the musical world.

## Shopper**Regulars**

### Coverdisk instructions **6**

**John Parker** and **Graeme Sandiford** make sure that you don't have any problems with your HelmLite and ShopperChoice Coverdisks.

### News **12**

The latest update from Commodore. Plus, loads of other Amiga news.

### Straight talk **24**

Our man in the States, **R Shamms Mortier**, talks to Jeff White of Visual Inspirations.

### Letters **110**

You could win £25 for your letter.

### Next month **114**

Another packed issue of Amiga Shopper will be hitting the streets on Tuesday, 4th April. Find out what will be in it by turning to page 114.



**38** This Squirrel SCSI2 interface could revolutionise your Amiga.



Shopper**Services**

Reader Ads	57
Subscriptions	60
Mail Order	72
Books	74
PD Houses	100
User Groups	104
Back Issues	106
Market Place	108
Ad Index	112



**48** The alien-skin texture in the Pro Textures collection is particularly effective.



**49** PointAt is the targeting program in the Motion Master Volume II collection.



**53** Optonica's new file manager can display AGA and 24-bit images on your Amiga.

**New!**

# AMIGA SHOPPER

The **essential** magazine for Amiga enthusiasts

Issue 48 April 1995 £3.95

## SuperTest:

Modem mania. We help you choose your ideal modem.

## ShopperDisks

Packed with complete programs, utilities and **more!**

### ShopperReviews

- Make the most of your A1200's expansion capabilities with the new Squirrel SCSI2 interface from HiSoft.
- The latest CD-ROM releases reviewed and rated.
- Add the professional touch to your rendered images with the Pro Textures Combo from Premier Vision.
- Plus, Motion Master Volume II, Pegger 2, InfoNEXUS and Easy Ledgers 2.

### ShopperTutorials

#### Assembler

Upgrade your lottery program by adding a random number generator to it.

#### Comms

Get into the Internet for free! We tell you all about Fidonet and how it works.

#### C

Add the finishing touches to your Finder program with the latest in our series of C programming tutorials.

#### Music

Make beautiful music with your Amiga. We take a fresh look at the music capabilities of your machine.

#### Photogenics tutorial

Get the best out of Almathera's brilliant, new image processing package. Hints, tips, tricks!

**PD** Unleash your Amiga's graphics power.

From the makers of **AMIGA FORMAT** and **Future Publishing**

Produce your own professional quality graphics. We tell you how...

Barcode: 9 770961 130063

Shopper**Disks** – turn to page 6

On Coverdisk 1 this month is the brilliant HelmLite, which is a true multimedia authoring system for your Amiga.

On ShopperChoice (Coverdisk 2) are some images from the key stages of this month's Photogenics tutorial, plus three handy Public Domain programs, namely: AmigaBase, VMM and XAnim.





# Disk 1

This month, we've got a true multimedia authoring system on our Coverdisk 1 – HelmLite. **John Parker** helps you make the most of it.

**H**elm earned a whopping 91 per cent when reviewed by our Technical Writer, Graeme Sandiford, in issue 37 of Amiga Shopper (see page 106 for back issues if you missed this issue). HelmLite is a special version of Helm that enables you to create multimedia displays etc. with certain restrictions.

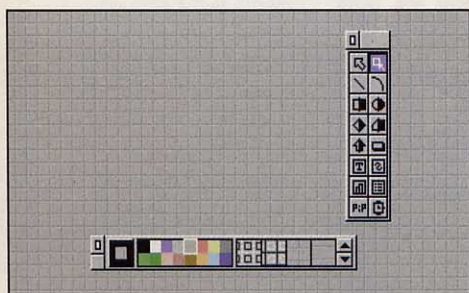
## Unpacking HelmLite

Place your Amiga Shopper Coverdisk in DF0 and double-click on the disk's icon. When the disk window opens, you will notice that there is an installer program for hard drives and one for floppy disks. Everything is automatic – just choose the appropriate option for your system and follow the on-screen instructions.

If you decide to install to hard drive, a drawer called "Helm" will be created on the drive of your choice, so there's no need to use the Installer's "create new drawer" feature. Those of you who use floppy-based systems will need two disks to which HelmLite can be unpacked. These will be formatted during the installation process, so make sure that they don't contain any data you want to keep!

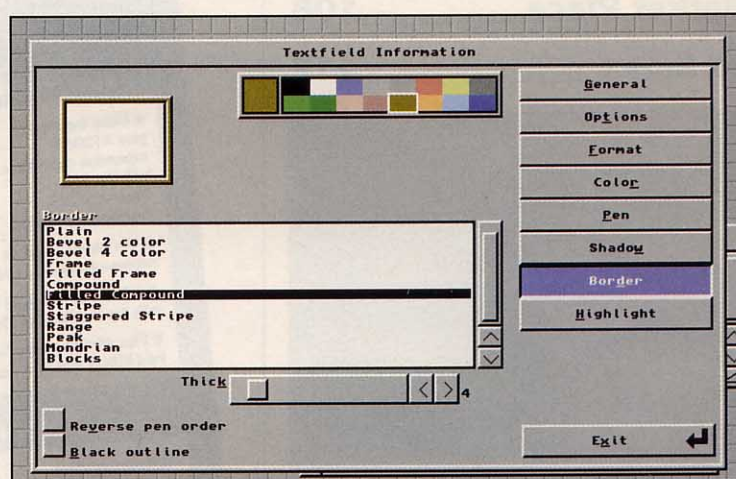
To run the program, hard drive users should open the Helm drawer and double-click on the Helm program icon. Floppy users will have a program disk and a disk containing example books, but the program disk will not autoboot.

To use HelmLite, simply boot with your normal Workbench disk, replace it with the HelmLite disk and go on from there.



From tiny acorns... We begin with a simple background and use the palette requester's patterns to make it a bit more interesting.

*Creating objects with borders is never guesswork when there's a handy preview on display above the main list window.*



## Limitations on HelmLite

Unlike some demonstration versions of other packages, HelmLite saves your work to disk, which means you don't have to start from scratch every time you load the program. The main limitations are that you can only produce books of up to 20 pages each and that the printing option has been de-activated.

The CD<sup>32</sup> extensions found in the full Helm package have also been removed, so if you want to create multimedia applications for use on the Amiga's console sister, you'll have to take advantage of our upgrade offer on page 72.

Other than these restrictions, the full power of the program is available to you, so there's nothing to stop you creating a complete book with user buttons, hypertext and your own images and sound samples!

## A tour of the program

Helm is a page-based application which enables the user to quickly set up multimedia "books", information systems and a wide range of other applications. When the program is run, it automatically loads the bookshelf application, which is a front-end, generated by Helm, offering access to the examples distributed with your copy of HelmLite.

Clicking on any of the buttons on this screen loads and runs the appropriate book and, as the examples have been created to show off the program's diversity, it's a good

idea to run through them all and have a good old clicking session.

Helm-features themselves are accessed via standard drop-down menus and the AmigaGuide help feature, which was installed to the same disk or drawer as your Helm program, contains full details on what they do.

## Creating a HelmLite application

To keep things within the available space on these pages, we'll create a simple information system based on a number of pages which can be accessed from a list held on an index page. You could store anything you like in such a book, but we'll start with that old favourite – video cassettes.

Starting on the default bookshelf screen, choose New from the Book menu, use the file requester to find a place on disk for your book to be saved and give it a name – when Helm asks you if you'd like to copy the current form to the new book, click on the No button. This ensures that we start with a clean slate.

You should now be looking at a blank screen, so use the right mouse button to reassure yourself that the menus are still there. This would be the best time to set up the best display mode for your book, so go to the Author menu, choose the Display sub-item and find a screen mode that suits you. It's best not to go below normal 640 by 256



hi-res, but you can choose lo-res if you wish.

Now, let's get some tools on screen, so we can start creating. Choose the palette and draw tools options from the Tools menu and you'll see two floating toolboxes appear on screen. We'll use the filled rectangle tool to draw a background, but a plain colour would be dull, so use the up/down gadgets on the palette requester to find a pattern you like and draw a filled rectangle the entire size of the screen.

Look at the two arrow buttons at the top of the selection of tools. The one on the right is the editing arrow and when this option is selected you'll be in edit mode. To test a page at any time, you would click on the left-hand arrow to go into test mode, but don't bother with that until we've added a bit more detail.

To add the index to our index page, click on the textfield gadget (a box with a 'T' in it), then draw a box which covers roughly the left-hand side of the page. When this appears, it will have the same pattern as the backdrop, so double-click on the textfield to bring up its information screen.

Using this screen, we can click on any of the buttons down the right-hand side to edit the textfield's properties. Click on Options first, then look at the list of attributes on the left. You'll see one for line selection and one for up and down buttons, which you should click to toggle on (a check mark appears beside them). These options make it possible later to click on a line of text within the textfield and have each line do something different and the other will place scrolling up/down buttons at the bottom of the box.

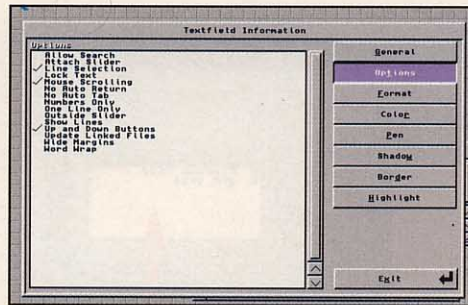
Now, click on the colour button to the right and choose a suitable colour from the palette requester which appears to the left. White would be best, as this colour will be used for the text background. Now click on the Pen button and choose a colour for the text itself.

You should also click on the Show Name button and the Caption button, which places the name of our textfield above it on screen. There are a number of options for placement of the name below these buttons, so choose one, then click on the Font button and select a suitable font from your Fonts disk or hard drive. Now, click on the General button to the right and type the words INDEX OF MOVIES into the name field at the top of the screen.

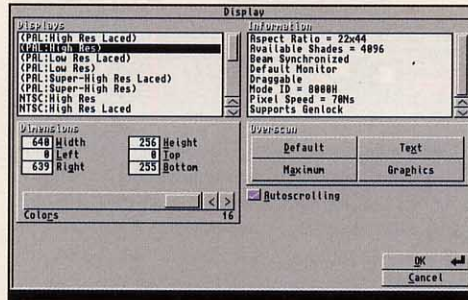
Finally, we'll add a border to the textfield, so click on the Border button which brings up a long list of the various border options. Before choosing a border style, use the slider below the list to make the border at least a few pixels thick so we can see the effects of our choice on the preview box above the list.

The toggle button for reversing pen order can be used to experiment with effects which give the border an embossed inward or outward appearance and clicking in the colour palette at the top of this screen will choose a colour. My own preference is for a brown border, four pixels thick, with the filled compound style. This results in a wooden frame effect.

Next, click on Exit and you should see your index textfield sitting ready for you to enter a list of movies. Click on the test arrow, then in the textfield and you'll notice that a cursor



**Options for line selection and up/down buttons will give us our basic list textfield.**



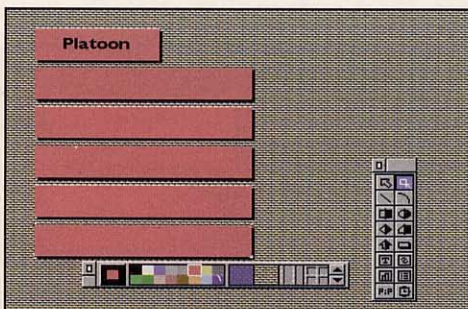
**Change the display to any resolution which suits you using the Author... Page menu item.**

appears. Now, type the names of a few movies, hitting Return after each one so that they're all on their own line. If you find that there's not enough room to fit a whole title on one line, go back into edit mode by clicking the edit arrow and drag out the size of your textfield.

Once you've typed a few movie titles, go back to edit mode and double-click on the textfield to bring up its options screen again. Click on the Options button to the right and check out the options list on the left. You will see a line which says "lock text" – click on it to toggle it on. This ensures that the next time you go into test mode and click on a line in the textfield, Helm will try to carry out an action, rather than invite you to input more text.

Now we're ready to create the pages which will contain information on our movies. Access the Go menu and choose the New Page option, which gives us a blank screen again. We could go back to the index page and copy it, then paste this into the new page, but it's nice to have different looking pages for the movies.

Right, now choose a background colour, or pattern, for this page and draw a filled rectangle to fill the whole screen as before. Notice that once the rectangle is drawn we can



**Our first movie page is easier to create when the duplicate feature can make so many boxes at once.**

change its fill colour or pattern by just clicking in the palette requester, so it takes no time at all to experiment with a different look.

Now would be a good time to double-click on our background, choose General options and toggle the "cannot move" option on. This makes it impossible to accidentally move the background around and, for good measure, you can toggle "cannot delete" on for extra safety.

We'll need a box with the movie title, textfields for director, year, certificate, rating and running length and a textfield with notes on the film itself. These are easily created and you needn't do them one at a time.

Just choose a colour for the background on the new box, then use the solid rectangle tool to create a box which is long enough for the information you'll store in it, bearing in mind the font and font size you're going to want to use. Now double-click on the box, wait until its information screen appears, then click on the Pen button.

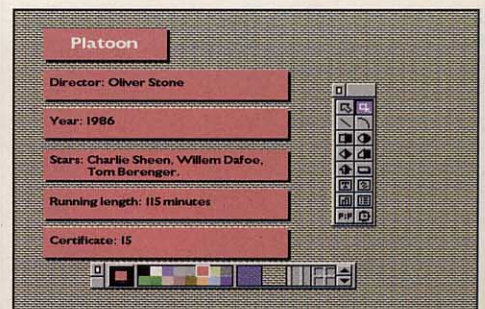
Choose a pen colour and Show Name as before, but leave Caption alone, then click on the middle position on the Location gadget below this to force the title into the centre of the box. Choose a font using the font button and decide whether you'd like text styles such as underline or bold. Now click on General and type the name of your first movie into the name field at the top of the screen.

Finally, click on the Shadow button, select the Solid option and experiment with colour and depth of shadow using the palette requester and the size gadget respectively. Now click on Exit and your title box should be on screen in all its glory. You can move it to wherever you like by just clicking on the box and dragging with the left mouse button.

Now for the other boxes. Click on the filled rectangle gadget and drag out another box, this time leaving enough room for an identifier such as "Length", or "Director" with a fair amount of space to the right where we'll add a text field. Give the new box the same colour and shadowing as the title box and use the Grid option from the Edit menu to align the two boxes. With snap-to-grid turned on you'll find it a lot easier to line up things up.

Don't bother giving the box a name for now, just click on it once and choose the Duplicate option from the Object menu. Set the sliders there for five rows, one column and row spacing of one unit, then click on OK. Hey presto, four more boxes.

Now we need textfields over the boxes so that we can enter the information. Use the



**We've added textfields to the boxes, but kept them transparent so that they don't show over the top.**



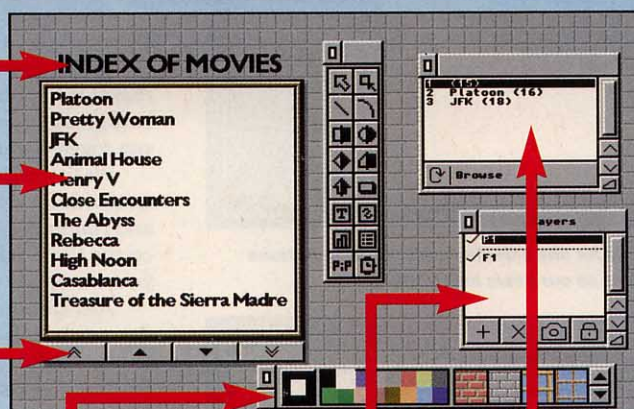
## HelmLite presents...

1. The textfield is given a name which we double up, and a title by telling it to display as a caption above the textfield.

2. All lines in the textfield will eventually have corresponding pages with the same name so that we just click on the name to go to the page.

3. Adding up/down buttons makes it easier to scroll through a long list, and is a simple matter of toggling on one of the object's options.

4. Keep the floating palette requester on screen to make editing a page's final appearance that much easier.



5. Objects on the page can be in different layers so that we can manipulate complex pages more easily. For our example, though, we only need one layer.

6. You can have a list of pages available as a floating requester, which is great for fast browsing through an unfinished book.

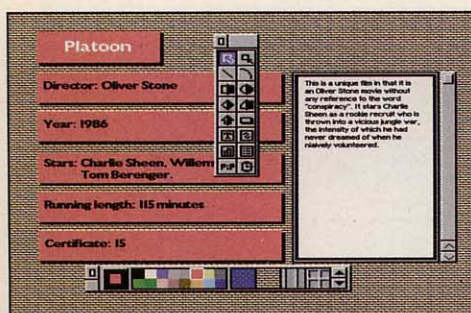
textfield gadget to drag out a field which is entirely within the first box and set its options so that its colour is transparent, but this time when you choose a font for the text within the field, choose it from the Format options, as Pen options set only the font for the textfield's name which we won't be bothering with. Still on the Format options, choose left alignment and hit Exit when all choices have been made.

Now click on the test arrow, then on the text field and type "Director:" to see how things look. You might want to use the Grid option again and change the size of the grid to four or five to make aligning the text in the centre of its background a bit more precise.

Once satisfied, use the duplicate option again to create four extra copies of the textfield and go into test mode to enter the other information such as running length and certificate. When you've finished doing this, the page will look a lot busier than before. All we need now is a textfield for the review.

This should be a box on the right-hand side of the screen using a smaller font than the main info boxes and as the review might be quite long, we'll bung a scroll bar on it. To begin, go back to the good old textfield gadget and drag out a new box about the same size as the index box on our first page.

Now double-click on the new textfield and



With the scrolling textfield for our review text added, the page is almost complete.

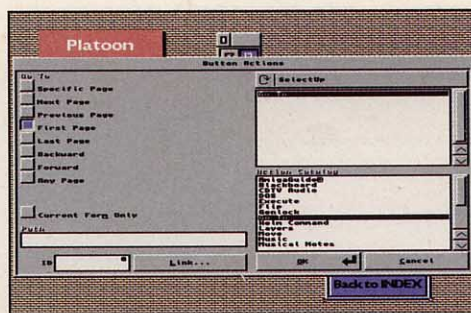
set up your paper, font and border options in the same way we've been doing all along. This textfield will be a little different, however and will require a couple of extra options.

Go to the Options screen for this box and toggle on attach slider, word wrap, wide margins and outside slider. These will ensure that the text is not cramped up against the side of the box, that it will wrap around as you type in your review and that when the review is too long to fit in the box, you can use the slider to move up and down through the text.

If you now enter test mode again, you can type in the full review, then go back to edit mode and select "lock text". As far as the information is concerned, the page is complete, but one thing is still missing – a method for getting back to the index page.

To set this up, simply select the button gadget, which is fourth from the bottom on the right-hand column of tool gadgets and bung a button in below the review textfield. Set this up by double clicking on it and bringing up its information screen. Tell it to contain its own name – we can call it "Back to INDEX" – and choose a font, colour and border style again.

Now click Exit to get rid of the button's information screen, click once on the button to select it, then choose Actions from the Object menu. This will bring up a list of the actions



Finally, add the Back to INDEX button and use the Actions menu item to give it a page-hopping function.

your button can perform, all of which are listed in the Action Catalog window in the bottom right-hand corner.

Use the scroll bar to the right until "Go To" is visible, then click on this action and drag it into the blank window in the top right. A number of buttons will appear on the extreme left, including one which simply states "First Page". Toggle this one on, then click on OK.

Before we leave this page, we have to give it a name, so choose Page from the Author menu and type the name of the page into the field at the top of the screen. Make sure you make the name exactly the same as it was in the original index list, so type the title of your movie (in my example, this is "Platoon") and hit the OK button.

To test the Back to Index button, go into test mode, click on it and you should be returned to the index screen we started with. Now to set up the list so that when we click on the name of a movie, Helm knows that it should go to the page with that movie's name.

This is achieved using a simple script. Helm's built in scripting language is very powerful, but we'll be using a simple command which fetches the line of text you click on and tries to find a page whose name matches the text. Now you know why we called the information page by the same name as the movie!

Click once on the index object to select it, then choose the Script option from the Objects menu. This will open an editing screen with three lines of text already in place. The first simply tells Helm that it should carry out the script when the user clicks on the index and lets go of the mouse button and the other two set the beginning and end of the script.

Place your cursor between the begin and end lines (on a line of its own) and type:

```
go to page (line clickedline of me)
```

This command does the job of passing on the title of your movie and going to the correct page. Everything has now been set up for navigation, so you should be able to enter test mode, click on the name of your movie, then click on Back to Index to return to where you started.

Building a complete book of movie reviews should now be a simple matter of copying the one movie page we've completed and copying it to as many new pages as you require. Just use the Copy Page option from the Edit menu, use New Page on the Go menu, then select Paste from the Edit menu and change the details in the boxes for the new movie entry.

Once you've done that, use the Author...Page option to change the name of the new page to reflect its index entry and you can quickly build the book up to the 20 page limit set by HelmLite.

That's all we have room for in this introductory tutorial, but if you think that Helm's superb multimedia capabilities are something you'll want to use more, you can always take advantage of our not-to-be-missed upgrade offer for the complete Helm package with manual and unrestricted program. See page 72 for how to order your copy.



# Discover DISCOLOGY

## Europe's No.1 Disk Duplication System

Siegfried  
*Discology*

**DISCOLOGY** comprises all the functions that are demanded from a top quality back-up program.

1) Included is the DISCOLOGY disk, DISCOLOGY

Cartridge and a 36 page printed manual.

2) Features a cartridge backup mode for heavily protected disks. (Requires the use of an external disk drive).

3) Two Nibble modes for coping with protected, IBM and Atari disks.

4) Sync Scan checks for unknown protection systems.

5) Recognition of Long and Short tracks.

6) Modem users can backup disks via a modem to another Amiga anywhere in the world.

7) Fully multi-tasking, copes with high density disks etc.

8) Full update service is available for registered users.

**DISCOLOGY is available NOW**  
-price **£39.99** (plus £1.50 for postage and packing)

Telephone for a **FREE** full information sheet.

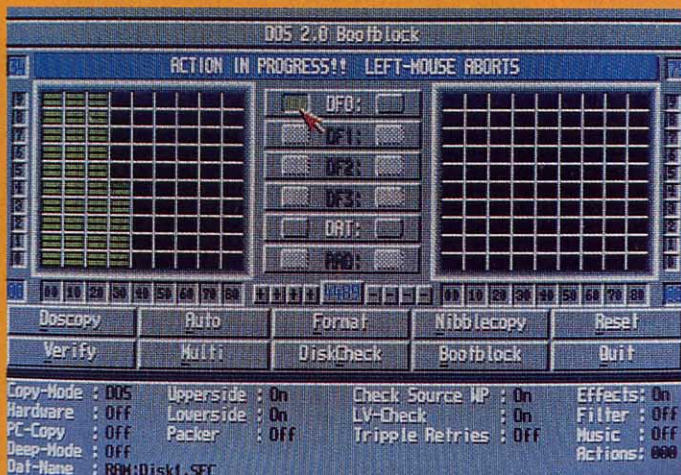
Siegfried  
**ANTI VIRUS**  
**PROFESSIONAL**

Siegfried Anti Virus Professional is a multi-function tool for combating Virus attacks. It features powerful early recognition of viruses and includes

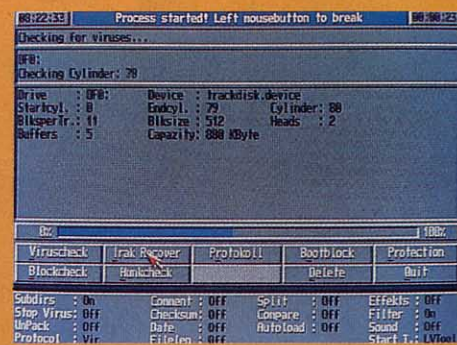
preventative measures for infested systems.

1) Virus search on any device (Hard disk, floppy disk CD-ROM etc.)

2) Quick tracing of Link and File viruses, (Trojan Horses, Worms, Bombs, Disk Validator Viruses etc.)



**DISCOLOGY is the optimum package for beginners & experts alike who wish to create back-up copies of original floppy disks speedily and easily.**



3) Block Test to search for viruses at the block level of a device.

4) Automated unpacking of compressed programs for virus checking.

5) Recognition of Bootblock Viruses with analysis.

6) Safeguards hard drives Rigid Disk Blocks.

7) Includes a comprehensive 50 page printed manual.

8) Full update service to registered users.

**Includes many more features.**

**ANTI VIRUS is available NOW -**

**price £39.99** (plus £1.50 for postage and packing) Telephone for a **FREE** full information sheet.

**No. 1 for mail order. FREEPHONE 0500 340548**

SWITCH, ACCESS, VISA, CONNECT, MASTERCARD, DELTA, EUROCARD accepted. Cheques made payable to SIREN SOFTWARE, 178 Bury New Road, Whitefield, Manchester M45 6QF Telephone: (Technical) 0161-796 3208. (Enquiries) 0161-796 5279.

**No. 1 in Manchester for Amiga.** Open 9am - 6pm Mondays to Fridays, Saturday morning 9am - 12 noon.

Personal callers welcome. Please phone to check the availability of any item.

**Directions:-** From M62 junction 17, head towards Bury. We are 25 yards on the right (opposite the 'Masons' pub) after the third set of traffic lights.



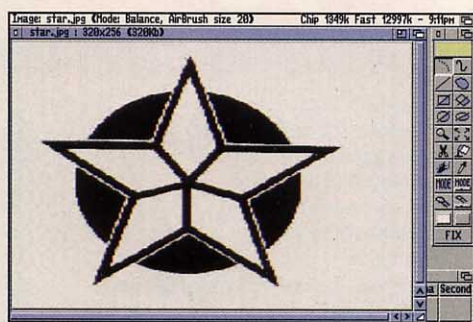
**siren**





# Disk 2

*There is simply oodles and oodles of good stuff on this month's Coverdisks. There are files to go along with our new Photogenics tutorial, a virtual memory system and a frighteningly powerful database.*

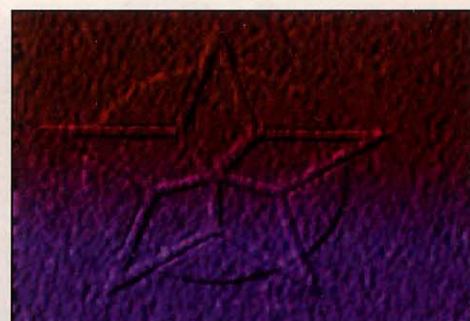


Before and...

## Tutorial files

This month on the tutorial front, we've got some bad news, but we've also got some good news. First, the bad news – due to circumstances beyond our control, we have not got the listings text files that normally accompany our C and Assembler tutorials.

The good news is that we have included some of the images from the key stages of this month's brand-spanking new Photogenics tutorial. They have been saved as JPEGs and are 320x256 pixels, so that *almost* everyone should have enough memory to load them in.



...after (the new Photogenics tutorial, that is).



XAnim is a powerful animation displayer.

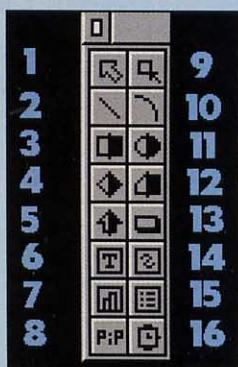
## XAnim

**WB2+ and 020 processor (AGA graphics recommended).**

This is one for all you Netters out there. If you regularly travel the Internet, then you'll probably have come across several files that have originated on the UNIX and PC platforms. They could be anything from a hypertext file, to pictures, or animations. XAnim will display an amazing variety of animation formats, including DL, FLI, AVI and Quicktime.

However, one or two formats have been disabled in this version. To use this program fully, you'll need Terje Pedersen's libX11 and an as fast as possible processor. This is really a power-user's tool – if you need this program, you should have the necessary files and a fast machine. If you have a machine capable of playing back these kind of files, available on the Internet, then you'll be pleased with the results.

## HelmLite – what's what



### 1. Test mode.

Turns off the Object and Image menus, activates the Text menu, and makes it possible to test how buttons and other objects work.

### 2. Draw line.

Holding down right mouse button brings up selection of line drawing styles.

### 3. Filled rectangle.

Holding down right mouse button brings up choice of rectangular or square drawing modes.

### 4. Draw polygon.

Click on this with right mouse button to

select regular polygons, stars, or rays.

### 5. Draw arrows.

Click with right mouse button to edit the shape of arrows drawn.

### 6. Create textfield.

Click with right mouse button to select new text, imported text, or hypertext link.

### 7. Create graph.

Hold down right mouse button to choose between the five types of graph.

### 8. Create Pipfield.

### 9. Edit mode.

Click and hold right mouse button to switch between edit and repeat mode.

### 10. Create arc.

### 11. Create filled circle.

Click and hold with right mouse button to choose between circle and ellipse mode.

### 12. Draw polygon.

### 13. Create button.

### 14. Create image field.

Click and hold with right mouse button to swap between new image, hypertext link, or exported image.

### 15. Create selector.

Use this tool to create radio buttons, multiple choice gadgets, check boxes, etc.

### 16. Create timer object.



## Dodgy disk?

If your disk absolutely refuses to work and you are certain it is faulty, please return it, along with an SAE, to:

**Amiga Shopper Coverdisk (insert the name of the disk),  
Discopy Labs Ltd., PO Box 21, Daventry, NN11 5BU.**

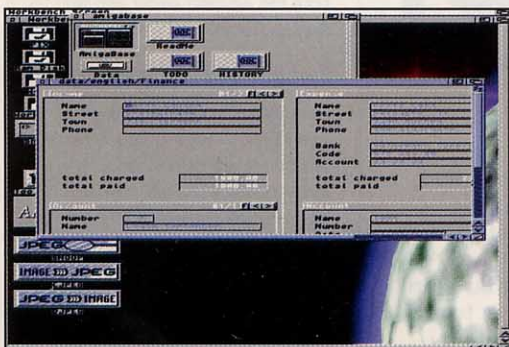
## DICE 3.0

Last month we had DICE 3.0 on our Coverdisk and within the instructions we mentioned an E-mail address for an automatic E-mail mailing list. The E-mail address was emailurl@flevel.demon.co.uk. We also asked you to include some lines in the body of the message with the address which was incorrectly printed.

The correct message to include is: subscribe dice my\_user\_name@my\_email\_address  
end

We also did not mention the fact that Visual Make is included on the Coverdisk in order to reduce the need for CLI commands and to aid beginners.

And on pages 8 and 9 the print commands are missing " which generates the following error: Error 18: unterminated double quoted string.



*Impress your friends with your new-found powers of organisation – get AmigaBase which is yours for free on this month's Coverdisk.*

## AmigaBase

Wb2+ required

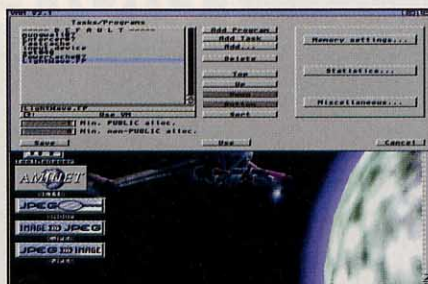
First off, let me make an apology. There has been an error in the saving of this program's archive, which has resulted in the installation script not working correctly. The main culprit is the gadget.library which has been inadvertently left out of this archive.

This library is needed by the program, but, as it is a very common library, you'll probably have it already. Just in case you don't, we'll be supplying it on next month's Coverdisk. What this means, is that you'll have to install the program manually.

The first step is to double-click on the Extract\_ABase icon. As usual, this will

unarchive the file to your RAM disk. The next step is to double-click on your RAM disk icon, select the AmigaBase folder you'll find in the window and then drag it to your destination directory. Next, we need to assign the AmigaBase directory, open a new Shell window, by double-clicking on your Shell icon. Type "Assign AmigaBase:" followed by the directory path that you copied the folder to – be sure to include a space after the colon.

You can now run the program. To save you typing that line every time you want to use the program, insert it into your user-startup sequence. If you intend to use the program from floppy, then format a disk and call it AmigaBase and copy the files inside the AmigaBase directory to it.



**VMM gives you more memory for free.**

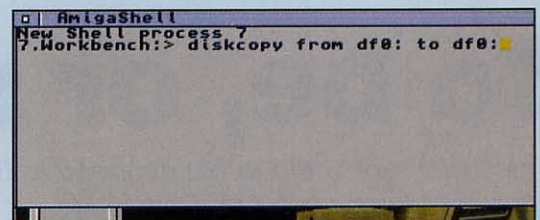
reliable too – as reliable as any virtual system can be. To speed things up, you can dedicate a hard drive partition to act as memory, or even create a pseudo partition.

## Back up that disk

Before using either of this month's Coverdisks, please be sure to back them up – just in case. Simply follow the easy instructions below if you are not sure how to do this.



- 1** Boot up from your Workbench disk or partition, double-click on your Shell icon – to be found in your system drawer.

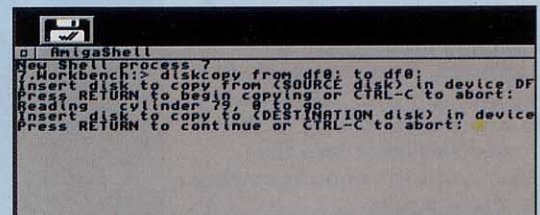


- 2** If you only have one disk drive, type in the following line and then press return.

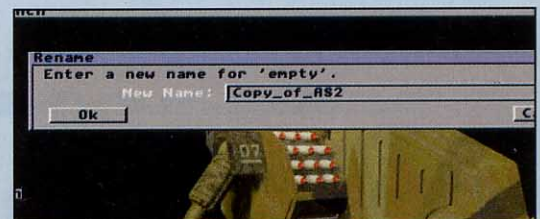
Diskcopy from DF0: to DF0:

If you have two drives, place the Coverdisk in DF0: and a blank in DF1:, then type in the next line instead.

Diskcopy from DF0: to DF1:



- 3** Follow the on-screen prompts and remember that the Coverdisk is the source disk and the blank is the destination.



- 4** If you used the two-drive method, remember to rename the copy by clicking on its icon and pressing right-Amiga <>.



- 5** If you have two drives, you can also copy the disk from Workbench by dragging the Coverdisk icon over the destination disk's one.

## VMM

Wb2+ and 030 processor with MMU

I've had a lot of reader queries about one of my favourite utilities, VMM. So, I put the latest version of VMM on this month's disk. For those of you who don't know, VMM is a virtual memory manager. It provides you with more memory by using your hard disk space.

What's this... more memory for free? Well, not quite, although there is no need to fork out as much dosh as you would for more silicon-based memory – you pay in terms of speed. However, VMM is one of the fastest virtual memory managers that I have come across. It's one of the most



# News

*In Amiga Shopper's news pages this month: all the latest on Commodore; your chance to win a Ramiga Z5 in our super competition; LightWave seminars; a new CD-ROM collection and MEMS '95.*

## To be, or not to be?

*Sue Grant took a trip to Maidenhead to find out whether there has been any progress in the sale of Commodore...*

**I** recently visited David Pleasance in the Commodore office at Maidenhead.

Though there wasn't a great deal of activity apparent in the research and development unit, Mr Pleasance and his staff were very busy preparing for the day that the management buy-out is successful. They are ready to leap straight into action and get the Amigas sitting in the warehouses back into the shops and start manufacturing machines again.

Unfortunately, at the time of going to press the only news is that an agreement is about to be signed between the management buy-out team and the liquidators. This is a document confirming how much money the MBO team has offered for the

company, and what exactly they will be getting for their money. After this document is signed, there is still a period during which the liquidators will accept any higher bids, but Mr Pleasance was certain that there were "no other players in town" and there was "no reason on earth why it [the MBO] should not go ahead".



David Pleasance has set up an information hotline number ☎ 01628 779655, which you can call to receive recorded updates on the Commodore and management buy-out situation. You can also contact the Amiga

Format Commodore news page on Futurernet, at:

<http://www.futurernet.co.uk/amigaformat/commodore.html>

# AMIGA SHOPPER

### Amiga Shopper require a Technical Writer/Coverdisk Editor

The successful candidate will love the Amiga, have exceptional writing skills, a thorough attention to detail and have the ability to work to tight deadlines.

We can offer you a competitive salary and genuine career prospects within the UK's fastest growing magazine publisher.

Send your CV, together with 500 words on why you are right for the job, to:

Sue Grant, Editor,  
Amiga Shopper,  
Future Publishing,  
30 Monmouth Street,  
Bath, BA1 2BW.  
Tel: (01225) 442244. Fax: (01225) 318740.

# Future PUBLISHING

## Titbits

### New from Silica

Silica have released the Amitek Loader 500, which is a high quality internal replacement floppy disk drive for the A500 and A500+.

This 3.5-inch drive gives a 1Mb unformatted capacity and comes with mounting pillars and a special unit eject button. The Amitek Loader costs £39.

Also from Silica is the Amitek Mamba – an external modulator which can be used with any Amiga. The Mamba costs £34 and comes with an extended two year warranty.

For more information about both the Amitek Loader and the Amitek Mamba call ☎ 0181 309 1111.

### Lots of labels

Add style to your mailshots with Avery's new range of InkJet labels. The labels are designed for colour InkJet printers and will not feather ink, so you'll get top-quality definition for your copy.

These labels are available in several different sizes and come in packs of 25 sheets – each pack costs £19.95.

If you want to try out Avery's range of labels to help you decide which are the most suitable for you, they have released two new sample packs. You can get hold of a pack for either InkJet or Laser printers.

To get free advice on labelling and further information, call Avery Dennison Consumer Centre on ☎ 0800 80 50 20.

### Sounds fantastic

Logic 3 have produced the Screenbeat Pro 5 speaker system. The speakers feature, amongst other things, 50-Watt peak power, volume and tone controls and an earphone jack.

The speakers cost £39.99 and you are able to find them in most good computer stores.

### Price reduction

Alternative Image's titling system, Scroller 2, has been seriously reduced in price to £30.

The previous RRP was £80, so this is a rather hefty reduction. Contact Alternative Image on ☎ 0116 244 0041 for further information.



## More from Fred

Texture Gallery is a new two CD-ROM set from Fred Fish and Amiga Library Services.

The CD-ROM set has loads of 24-bit textures in lots of different file formats. These textures can be used with LightWave 3D. Texture Gallery will cost approximately £30 (\$44.95).

Also from Fred Fish and the Amiga Library Services comes LIGHT-ROM 2, which contains over 3,500 objects for use with LightWave. LIGHT-ROM 2 will cost around £28 (\$39.95).

Amiga Library Services are based in the US and can be contacted on ☎ 0101 602-491-0048

## Complete Amiga C book

There was a certain amount of confusion caused by two mentions of the Complete Amiga C book in Amiga Shopper's March issue.

On page 86 we boldly state that the book is still available and to call a hotline number for a copy, but then, on page 118, we tell you that the book is out of print.

Sadly, the latter is the case.

## Total confusion

TOTAL Computing of Poole in Dorset would like us to say that they have no connection whatsoever with Total Computer Supplies in Hemel Hempstead.

TOTAL Computing specialise in all aspects of PC and Amiga and can be contacted on ☎ 01202 717001.

## Warning

It is advisable to only order goods from advertisers in current issues of Amiga Shopper and be suspicious if the advertiser does not accept credit cards.

Hobbyte Computers have now ceased trading and another company have taken over their premises. They are called Computer Express Services and are *not* Hobbyte.

We have had a few complaints and would suggest note is taken of this warning.

## New software club

A new software club called Inspira has been launched. Members receive a newsletter and discounts on PD and commercial software.

To join, send a cheque or postal order for £10 to Mr D Cowell, Inspira software club, 45 Sandy Hill Road, Woolwich, London SE18 7BQ.

## Get in print with Canon

*The BJ-200ex InkJet printer is the successor to the BJ-200 and Canon reckon it to be an ideal printer for both the home-user and the office-user who requires a personal printer. The BJ-200ex is a high-quality mono printer and it costs around £259. For information, call ☎ 0181 733 3173.*

*Canon have also released a high-capacity ink cartridge for the BJC-600 printer and glossy paper for the BJC-400 and BJC-600. For more information and prices, contact Canon on ☎ 0181 563 2222.*



*The new BJ-200ex InkJet printer from Canon.*

## LightWave seminars

**I**f you want to find out more about LightWave, then why not attend one of Premier Vision's LightWave 3D seminars? Whether you are a complete beginner, or something of an expert, Premier has aimed the seminars at all levels of experience.

The LightWave Basics seminar costs £49 (plus VAT) per session, Advanced Techniques And Effects

costs £99 (plus VAT) per session and The Latest from Lee Stranahan costs £199 (plus VAT) per session. All of these seminars start around mid-April and will continue for a couple of months. The Lee Stranahan seminars take place on 24th-28th April, but phone Premier to confirm details.

For details on how to book, contact Premier Vision on ☎ 0171 721 7050, or fax 0171 721 7049.

## The whole AmiNet

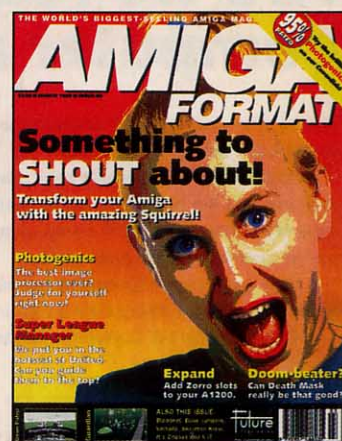
A brand new AmiNet CD-ROM collection has just been released from Germany. Unlike previous AmiNet CD-ROMs, which have only contained a fraction of the AmiNet because of its huge size, AmiNet Set 1 actually contains the complete AmiNet. It's available from PD Soft for £32.95.

The AmiNet is the section of the Internet that is dedicated to software. This collection is a four-disc pack that has all of the AmiNet's file as of January 95. It's like a snapshot of the site on disc. It contains text files, programs, 3D objects, demos, music modules, samples and lots more.

The collection also comes with a search facility, which can be used to search the ReadMe files that accompany the programs and files. It also comes with a picture displayer that displays thumbnail images. To get hold of this collection, call PD Soft on ☎ 01702 466933.



## Meet our sisters



Hello Amiga Shoppers. By the time you read this we may have found out whether the Commodore UK management buy-out team have been successful in their bid to take over the old Commodore. We've been following developments closely and we'll be bringing you the full story in AF70 (on sale Thursday, March 16). If you value your Amiga, you can't afford to miss it.

Our AF70 creative Coverdisk really is something very special – an exclusive version of the excellent Wordworth word processor. And there's also a word processing feature to help you get the most out of this brilliant Coverdisk.

Plus there's the games Coverdisk, reviews of modems, genlocks, a video digitiser, Comms, PD, Workbench letters and so much more. Don't miss it. Well, you can if you like, but I won't be your friend any more.

Nick Veitch, Editor.



The front of the March issue of Amiga Power depicts the legendary World War 1 flying ace, the Red Baron, quite literally "comin' at ya" (as we believe young people today would say).

Our monocled chum is one of the stars of Empire's fantastic new flight sim Dawn Patrol, which is reviewed inside. There are two Coverdisks containing four – again, quite literally – exemplary demos, including one of Guardian (the Game of Champions). And there are loads of other features, reviews and things. AP47 – it's good! Jonathan Davies, Editor.



## Are we really in the computer age?

Gallup have carried out a survey for a recently-published Key Note report, entitled UK Computer Market.

Apparently, 1,000 people took part in the survey and the results appear to indicate that the paperless office is still a concept of our dreams – only 18 per cent of people admitted to being competent with computers and 37 per cent hardly ever came near a computer!

Only 6 per cent of people questioned use E-mail and only 6 per cent were at all interested in doing their shopping by computer.

Copies of the UK Computer Market report can be obtained from Key Note on ☎ 0181 783 0755.

## Future Music Show

The MIDI, Electronic Music and Recording Show (MEMS '95) is taking place at London's Olympia from 21st to 23rd April 1995. The show is hosted by Amiga Shopper's sister magazine, Future Music.

If you enjoy making music with your Amiga, then this show is unmissable. It will feature over 60 exhibitors and will also have free seminars running throughout the three days of the show.

If you book in advance, you can save yourself some dosh. Group bookings of 10 or more pay £4.50 per ticket, advance tickets cost £5 each and tickets bought on the door cost £8 each. To order your MEMS tickets, call the hotline on ☎ 01369 707 888.

# MEMS '95

## HiQ announces the PowerStation

The PowerStation from HiQ is aimed at the A600 and A1200 machines and is based around a converted multimedia case. It features a 200 Watt power supply, up to five drive bays with cable supplied, a monitor stand and cable tidy, a high speed SCSI interface and a dual-speed CD-ROM.

The PowerStation comes in three versions: a multimedia system; a slim line unit without speakers; and a mini tower.

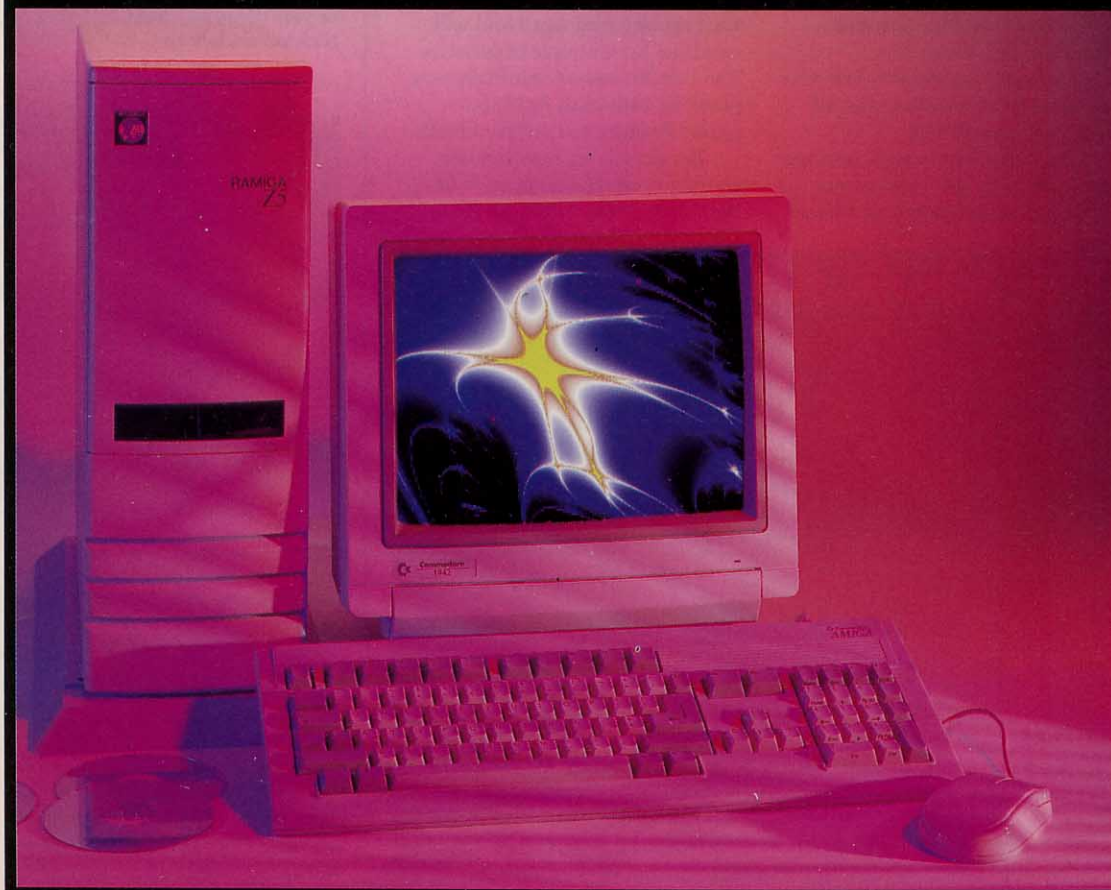
The PowerStation costs £299.95 (plus VAT and P&P) and for more information, contact HiQ Ltd on ☎ 0181 909 2092.

HiQ's PowerStation.



# Win a Ramiga Z5!

Compo



Yes, you could win yourself a Ramiga Z5, plus power supply and keyboard (or a cash refund if you have already bought yourself a Z5). The Z5 adds five Zorro II slots to your A1200 (see our feature on page 20 of AS47 for more information).

All you have to do is answer the three questions below and send the answer on a postcard (or on the back of a sealed envelope) to:

Z5 Competition, Amiga Shopper, Future Publishing, 30 Monmouth Street, Bath BA1 2BW. Closing date is Tuesday, 4th April 1995.

### The questions

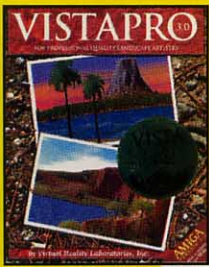
1. How many Zorro II slots does the Z5 add to your A1200?
2. What is the price of the Ramiga Z5?
3. Who wrote the feature on the Ramiga Z5 in Amiga Shopper issue 47?

### The rules

1. All entries must be received by Tuesday, 4th April 1995
2. The editor's decision is final.
3. Employees of Future Publishing Ltd and Ramiga International aren't allowed to enter this competition.



# Emerald Creative Technology

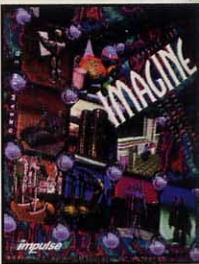


Create stunning landscapes and flythroughs with Vista Pro, Makepath & Terraform, and explore the night sky with Distant Suns.  
£59.95+£4.00p&p

**All Prices  
Include VAT**



New version of the incredible 3D package from Impulse. Bones feature, new textures and more. Order with the Essence & Forge pack for an even better deal!  
£99.95+£4.00p&p



## AMIGA-PC UTILITIES

PC Task 3 **NEW**..... £59.95  
EMULATE A 286 PC, RUN WINDOWS 3.1 IN SVGA  
SCREEN MODES, WOLFTENSTEIN 3D ETC  
PC Task v2-3 upgrade..... £34.95

## BOOKS

Secrets of Frontier Elite..... £8.95  
A1200 Insider Guide..... £12.95  
A1200 Next Steps..... £12.95  
Amiga Disks & Drives..... £12.95  
Assembler Guide..... £13.95  
Imagine Hints & Tips..... £7.95  
Workbench A-Z..... £13.95  
Mastering Amiga Amos..... £17.95  
Mastering Amiga Arexx..... £17.95  
Mastering Amiga Beginners..... £17.95  
Mastering Amiga Printers..... £17.95  
Mastering Amiga Dos 3.0  
Reference..... £19.95  
Mastering Amiga Dos 3.0  
Tutorial..... £19.95  
Mastering Amiga Dos Vol1..... £19.95  
Mastering Amiga Dos Vol2..... £17.95  
Mastering Amiga Scripts **NEW**..... £19.95  
Amiga Beginner's Pack..... £36.95  
INCLUDES A1200 INSIDER GUIDE, A1200 NEXT STEPS,  
AMIGA INSIDER VIDEO + 4 DISKS OF SHAREWARE  
Workbench Booster Pack..... £36.95  
INCLUDES WORKBENCH 3 A-Z INSIDER GUIDE, DISKS &  
DRIVES INSIDER GUIDE & TUTORIAL VIDEO

## DISK UTILITIES

Amiback..... £call  
DirWork 2..... £29.99  
Disk Expander..... £29.95  
Gigamem..... £47.95  
Infonex **NEW**..... £25.95  
Video Back-up System Phono..... £54.95  
BACKUP HARD DRIVES TO VIDEO TAPE  
Video Back-up System Scart..... £57.95

## HARDWARE

Pro Grab 24RT..... £125.95  
Rendale 8802 Genlock..... £159.95  
Rendale 9402 SVHS..... £279.95  
**NEW !!! PCMCIA SCSI INTERFACE FOR  
A1200s AND A600s !**  
Squirrel SCSI Interface..... £64.95  
Video Back-up System with Phono cables .  
£54.95  
Video Back-up Scart..... £57.95  
Vidi Amiga 12 AGA + Take2..... £69.95  
Vidi 12 Real Time..... £149.95  
Vidi 24 Real Time..... £209.95  
Picasso 2 + 2Mb & TV Paint Junior £289.95  
Tabby Graphics Tablet..... £57.95  
Power Floppy Drive..... £49.95

## DATABASES

Datanexus **NEW**..... £24.95  
Digita Datastore **NEW**..... £45.95  
Sbase Pro 4..... £139.95  
Sbase Personal 4..... £69.95

## DATABASE APPLICATIONS

GB Route Plus..... £31.95  
Mailshot Plus..... £35.95  
Music Librarian..... £22.95

Plants For All Seasons..... £22.95  
LIBRARY OF PLANTS, PREFERRED SOIL TYPES

## SCANNERS SOFTWARE

Epson GT6500 Scanner Controller Software & Cables..... £89.00  
Sharp JX100 Driver & Cables..... £89.95

## SOFTWARE DEVELOPMENT

Amos Professional..... £29.95  
Amos Pro Compiler..... £24.95  
Cygnus Ed Pro v3.5..... £59.95  
DevPac 3..... £51.95  
Gamesmith **NEW**..... £79.95  
INCLUDES C AND ASSEMBLER  
Hisoft BASIC 2..... £54.95  
Intos..... £25.95  
INTUITION BASED SYSTEM FOR USE WITH AMOS  
Pascal..... £74.95

## EDUCATIONAL

ADI GCSE Maths..... £19.99  
ADI GCSE English..... £19.99  
ADI GCSE French..... £19.99  
ADI Junior Reading..... £15.99  
ADI Junior Counting..... £15.99  
Kid Pix..... £19.95  
Paint and Create..... £16.99  
Spelling Fair..... £16.99  
Noddy's Playtime..... £16.99  
Noddy's Big Adventure..... £16.99

## FINANCE MANAGEMENT

Cashbook Combo..... £59.99  
Day By Day..... £24.99  
Digita Home Office..... £39.95  
Money Matters..... £34.99  
Personal Finance Manager +..... £19.95  
System 3E..... £49.99  
Turbocalc 2..... £49.95

## INTEGRATED SOFTWARE

Mini Office..... £37.95

## IMAGE PROCESSING



Art Department Professional v2.5..... £139.00  
AD Pro Conversion Pack..... £59.99  
Caligari 24..... £89.95  
Caligari Broadcast v3.1..... £249.99  
Doug's Pro Control..... £50.95  
Imagine 3..... £99.95  
Lightwave..... £449.95  
Maxxon Magic..... £23.95  
SCREEN SAVER  
Morph Plus..... £129.00  
Essence vol 1 + Forge..... £79.95  
Essence vol 2 + Forge..... £79.95  
Pixel 3D Pro II..... £59.00  
Real 3D Classic..... £69.95  
Real 3D V2.4..... £299.95

## X-CAD

LIMITED TO JUST 50 COPIES OF X-CAD  
3000.

X-CAD 2000..... £39.95  
X-CAD 3000..... £119.95

## MUSIC

### BARS & PIPES PRO v2.5

The latest version of the most comprehensive sequencer on any platform. Contains 50 new features.  
Bars&Pipes Pro v2.5..... £199.95  
Upgrade v2 to v2.5..... £79.95



Naksha Handscanners For Amiga A500 and A500+

Designed specifically for the A500 range, this complete scanning package includes a 400 dpi grey shade hand scanner, interface, power supply and Express-IT! image processing software. All this for just £69.95 !

Creativity Kit..... £24.99  
Internal Sounds..... £24.99  
Multimedia Kit..... £24.99  
MusicBox A or B..... £24.99  
Performance Tools Kit..... £29.99  
Power Tools Kit..... £29.99  
Pro Studio Kit..... £29.95  
Rules for Tools..... £29.99  
HOW TO WRITE YOUR OWN TOOLKITS FOR BARS & PIPES  
One Stop Music Shop..... £479.99  
PatchMeister..... £79.95  
MIDI PATCH LIBRARIAN, DRIVERS FOR MANY SOUND MODULES AND SYSEX DUMPS  
SuperJAMI 1.1+..... £59.95  
SyncPro..... £151.95  
SMPT TIME CODE BOX  
Triple Play Plus..... £159.95  
Aura **NEW**..... £79.95  
12 BIT SOUND SAMPLER  
Deluxe Music 2..... £69.95  
Megalosound Sampler..... £23.95  
Music X 2..... £74.95  
Pro Midi Interface..... £19.95  
Technosound Turbo 2..... £25.95

## PAINT PACKAGES

Brilliance 2..... £45.95  
Deluxe Paint 4.5 AGA..... £59.95  
Personal Paint 6.1..... £34.95  
Photogenics..... £49.95  
TV Paint 2..... £169.95

## WP & DTP

### NEW WORDSWORTH 3.1 SE

LIMITED STOCK £44.95

Final Copy 2..... £47.95  
Final Writer 3..... £69.95  
Pen Pal..... £29.00  
TypeSmith 2.5..... £118.95  
Pagestream 3..... £174.95  
Wordsworth 3.1SE..... £44.95  
Wordsworth 3.1..... £79.95  
Personal Fonts Maker..... £19.95

## VIRTUAL REALITY

Distant Suns 5.0..... £27.95  
Vista Pro 3.0..... £27.95  
Vista Lite (only 2mb required)..... £27.95  
Makepath for Vista..... £9.95  
Terraform for Vista..... £9.95

## VIDEO PRODUCTION

Big Alternative Scroller 2..... £49.95  
Media Point v3..... £249.95  
Montage 24..... £259.95  
Scala HT100..... £49.95  
Scala MM211 **NEW LOWER PRICE**..... £94.95  
Scala MM300 **NEW LOWER PRICE**..... £219.95  
Scala MM400..... £249.95  
Scala Echo EE100..... £132.95  
**COMPLETE DESKTOP VIDEO SOLUTION**  
Scala MM400+EE100..... £349.95

## WORKBENCH UPGRADES

OS 3.1 for A500/2000..... £83.95  
OS 3.1 for A1200..... £93.95  
OS 3.1 for A3000..... £93.95  
OS 3.1 for A4000..... £93.95

**HOW TO ORDER:** CHEQUES made payable to Emerald Creative. Allow at least 5 working days to clear.

**CREDIT CARD:** Visa, Mastercard, Access, Delta, Switch. We bill your card when we despatch the order not before.

**POSTAGE & PACKING:** Charges within the UK are £3.50 unless otherwise stated. Recorded post is an extra £0.55p.

Next day courier is £4.95 inc. VAT within the UK mainland. Please ask for overseas pricing.

Pricing : All pricing includes VAT but not carriage. We reserve the right to change prices - you will be informed of any change when you order.

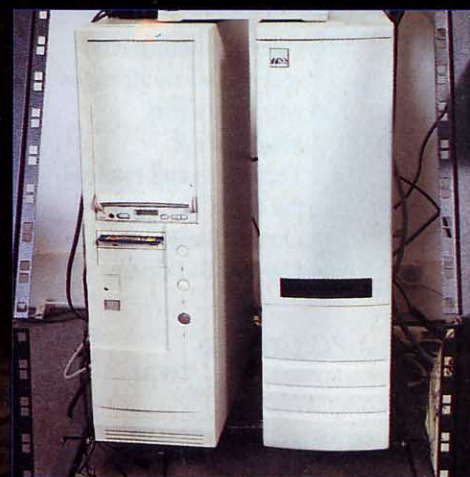
Problems: Faulty product will be replaced or repaired if returned within 30 days of purchase. We will refund if we can't repair the goods. E&OE

**Tel 0181-715 8866**

**Fax 0181-715 8877**

**Rapid House, 54 Wandle Bank  
London SW19 1DW**





These shining white cases will soon house the mighty DEC Alpha workstations.



The Premier Vision team - minus one. From left to right: Aiden, Craig, David, Andy B and Andy G.



# Premier Vision

Have you ever sat down after an episode of *Babylon 5* and wondered, "how do they do that"? Then, you'll going to love this account of **Graeme Sandiford's** trip behind the scenes of a professional graphics house.

**E**very Amiga-owner knows that his or her machine is capable of producing incredible graphics. We've all seen the work of professional artists and animators, such as TV series like *Babylon 5* and many other visually stunning examples of computer graphics. But, how do they do it and what will you need to be able to produce professional-quality graphics of your own?

In order to find the answer for you, I packed up my bags and went to London, despite my dislike of big cities, to take a look behind the scenes of a professional graphics house. The first company that sprung to mind were Premier Vision – I'd bumped into one of the company's directors, Andrew Bishop, at several computer shows. I was amazed by the incredible things they were doing with the Amiga – everything from producing music, music videos, multimedia displays, interactive CD-ROM creations, as well as being a popular retail outlet.

This feature is based on my visit and is intended to tell you what you'll need, in terms of hardware, software and ideas, to produce graphics of the highest quality. We'll find out all about how Premier Vision started out, what they've done, how they did it and what software they use. Also, be on the look-out for boxouts – they are there to help you find out what hardware and software is recommended to produce the best results. Don't forget to check out the last page, as we reveal how this month's cover image was created.

## First impressions

As I mentioned before, I've met Andy Bishop at shows such as the Future Entertainment Show and the World Of Amiga show. He's one of the most enthusiastic and out-going Amiga fans on the face of the planet – this man seriously loves the Amiga. As a result of previous encounters, I expected him to be energetic and a little over the top. What I didn't expect, was to find a company full of people that are crazy about the Amiga.

As soon as I arrived at the office, it was apparent that these people enjoyed doing what they did. At the moment, the company has six

members of staff; the Directors are Andy Bishop and Andy Gould (referred to as Andy Bee and Andy Gee), Aiden – the person responsible for marketing, David – the man in charge of the company's finances, Kevin who handles video production and Craig who does just about everything else. There is an incredible atmosphere of fun, coupled with industriousness. The company is taking on an amazing amount of work, but despite having to work their collective socks off, everybody is still enjoying themselves.

I managed to collar both Andies for a couple of hours to talk to them about how to run a successful graphics house.

### So, how did it all start?

**Andy B:** Basically we were both friends of "Big Bad" Barry Thurston – Andy G used to do training with him and he always gave me good advice. We first met at a show. Andy G came up to my stand – I was working for Blue Ribbon at the time – and tried to "blag" a copy of *Bars & Pipes*; I said yes. One year later, when I was in Atlanta (USA), I got a call from Andy in the UK and we were on the phone for about an hour, talking about *Bars & Pipes*. Anyway, I sent him a manual and although we were working in unrelated fields (he was working on interactive programs), we bumped into each other at a few shows.

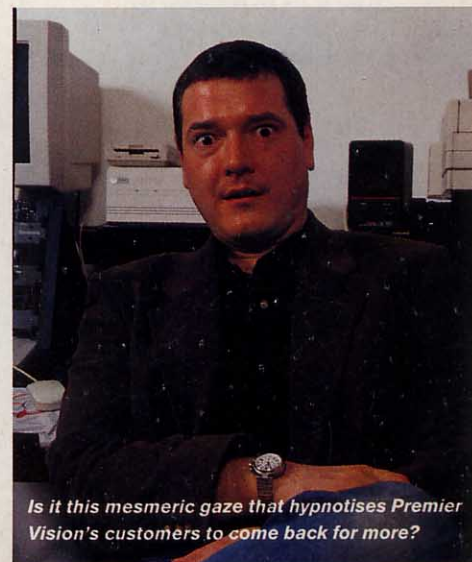
After a while I moved back to England with my wife and Andy was the first person I phoned. Anthony Jacobson of AUI (*repulsed spitting sound from Graeme*) asked us to produce an interactive CD for a Coverdisk. That became our first joint project. We learnt a great deal from that and our second was a lot better and we now do interactive CDs for a large number of different companies. That's really the basic story – do you want us to embellish on that?

**Andy G:** Well, as well as doing lots of interactive work, we have also sold a lot of systems. The system sales have gone surprisingly well – we really didn't go into business to sell kit. It has probably gone so well because we use the equipment professionally ourselves – when people want to buy professional systems, they want to do so from people who sort of know what they're are doing. Sorry, er... do know what



No it's not *Babylon 5*, it's a still from the *Sonic Surfers* music video, created by Premier Vision.

"The Amiga has been the breeding-ground for some of the **greatest** graphics software."



Is it this mesmeric gaze that hypnotises Premier Vision's customers to come back for more?





they are doing. This was really the idea behind the ACE (Amiga Centres of Excellence) project, although that has come to a bit of a stand-still, due to Commodore's current situation.

**Andy B:** As a small side-point, we were the ones who originally came up with the ACE idea. We went up to Scala and presented the idea of forming a group of experts that could give completely unbiased advice to anyone. The idea was that people didn't have to buy from them; it was just to make sure that the Amiga was better supported at the high-end. Then, we made a presentation for Commodore and several Amiga developers and distributors. They loved the idea and called it ACE. It really

took off, but although we originated the idea, the first centre was set up elsewhere.

The main reason for that was because we didn't have the premises that we have now. Anyway, the project changed and instead of having a selected bunch of unbiased people, companies could pay to become members. The sad thing about it is that anybody paying a certain amount could call themselves an ACE centre – meaning they are supposed to be experts. What would be really cool, is if Commodore get re-started and decided to get the ACE going again and picked out the people who are the *best* at what they do with the Amiga.

*I understand you also run seminars – can you tell me a bit about them?*

**Andy B:** We've just run some LightWave seminars and we also did a big one on multimedia. We're planning to do some on music and some more on LightWave and multimedia.

*What do you think has been the main reasons behind your success?*

**Andy B:** Out of all the graphics and multimedia companies, you might come across a few who do their own graphics, some who do their own interactive CD programming, a company who can do good animations and you



*Here's a still image taken from the music video Premier Vision created for the Sonic Surfers.*

might even find a few companies who can do a couple of those things. But, between all of us, we can do all of them – we can produce still work, animation and music, and all of it to a very high standard.

Another reason is that we are always straight with people. Our reputation is built on giving good service. If someone rings up for advice with software, or for a system, we try to give them the advice that is totally right for them. We make a point of saying to people that they don't have to buy from us, but, of course, most people usually come back to us.

*Why have you stuck with the Amiga so long?*

**Andy B:** Quite simply, because we love it – I



*It would seem that this young lady, the lead singer of Sonic Surfers, is very pleased with her video.*



*Although there are no machines in sight, both of these monitors are attached to an A4000.*

## Can't afford LightWave?

Although LightWave has been the choice of most professional animators, it may be beyond the reach of some people's wallets. You'll be glad to know that there are cheaper alternatives which can also be used to create stunning animations.

One of the most consistently popular programs over the years has been Imagine. It's relatively easy to get to grips with and has been used to produce some stunning images and animations.

Real 3D is another long-time favourite. It's certainly one of the most powerful rendering packages on the Amiga, although some people have found it a little difficult to use.

Although not so popular, or quite as powerful as the other two, Caligari and its pro version, Caligari Broadcast, are surprisingly easy to use. It uses an intuitive real-time interface which enables you to do your modelling and animation in an interactive 3D environment.





Here are the men responsible for the formation of what is today known as Premier Vision – Andy Bee and Andy Gee, as they are referred to in the office. Andy Gould, left, has come from a multimedia background and Andy Bishop from a music and graphics one, which I suppose could be considered a multimedia background too. Yes, they were that manic through the entire interview!

wish I had a crystal ball to see into the future to find out if we will still be using and distributing Amigas. The only problem we have working with Amigas is their speed. But, as a delivery platform, it's way ahead of things such as PCs. The CD<sup>32</sup> out-performs Pentiums as a multimedia delivery platform by a long way. Unfortunately, not many people know that, but we always use Amigas when we can – but if a company insists on a PC then that's what we have to give them.

#### What about software?

Andy G: There are plenty of excellent new



This sequence was processed with ADPro and Batch Factory, using the mosaic filter.

products coming out. There are the new versions of AnimWorkshop and Wavemaker and a new product from Visual Inspirations called Video Effects. It's competitive with Hollywood Effects – both use LightWave to do built-in 3D DVEs (Digital Video Effects). There's also Batch Factory 2, which, I guess, is little to get excited about, but is a very good utility. It's more a functional kind of thing. But, there is a whole load of stuff coming out for the Amiga, not least of which is LightWave 4.0 which is looking really good.

**Andy B:** The Amiga has been the breeding-ground for some of the greatest graphics software. For example, 3D Studio, which is the industry standard on the PC, incorporates features that have been on the Amiga for years. On the other hand, you have this God-send which is LightWave. It comes out and repairs most of the damage done, in terms of the credibility of the machine, by Commodore US. It's doing wonderful things and, hopefully, if Commodore get their act together, it will continue to do wonderful things.

I mean, LightWave has got the simplest interface ever created – the *best* interface ever created. We know a lot of people who work with WaveFront and Soft Image, but would



Andy Gould proves that even though he has to wear a shirt and tie, he doesn't have to be serious.

rather work on LightWave, because they think it's a better package. One company who will be doing a seminar with us, use LightWave on the Amiga to do their modelling and then load the models into SGIs for rendering. They could use any modeller they like, these guys do *not*

## Good hardware is nothing without decent software

It's all very well having one of the best graphics machines around, but you're not going to get very far without some decent software. It comes as no surprise that the people at Premier Vision use LightWave, but what else do you need to create gob-smacking animations? We're going to help you out by listing the most useful animation utilities, along with a description of what they do and the type of project they are best suited to.

- The first recommended package is Humanoid, quite simply because it is of use to any animator who plans to have human beings in their scenes. It's a collection of highly-detailed 3D objects of human beings for Imagine and LightWave. However, it's more than that, as the objects come complete with motion paths and morphing targets. By combining these two techniques, you can simulate just about any human motion or expression.

- Surface Pro is a 'must-have' for any LightWave user. It provides an abundance of surfaces which can be loaded into LightWave and applied to objects. It combines scanned images of everyday

surfaces with LightWave's procedural textures. The quality of the textures is superb and, as a bi-product, they can even help you get a better understanding of the best way to use textures in LightWave.

- Light ROM is a product that had many LightWave users salivating for months before it was even produced. It's a CD-ROM that contains a host of objects, images and special effects, primarily for users of LightWave, but also for Imagine-users. There are some truly gorgeous models on this disc and there are lots of them too!

- Motion Master Volumes I and II are collections of animation tools for users of LightWave. Volume I has one or two useful programs, but is not really that spectacular overall, but volume II is an outstanding collection.

Volume 2 comprises PointAt, VolumeCube, Child2World and Wobbler. Child2World can be used to separate a child object from its parent, so that both can be animated independently. PointAt enables you to target objects with other objects.

VolumeCube creates quasi-random motions for a group of objects. Wobbler makes your objects wobble – no really! See page 49 for a full review.

- Forge is an innovative program, that can render Essence textures. Essence is a brilliant set of procedural textures that have been designed for use with Imagine. However, by using Forge to render them, these textures can now be used with any package – 3D or otherwise.

- An image processor is a handy thing to have around, as it can be used to apply effects, or enhance an image or an entire animation. The two favourites are ADPro and ImageFX. There is really very little to choose between – they are both well-supported and have an impressive range of features. Personally, I prefer ImageFX, but that's just my personal preference.

There are other useful programs that we haven't got space to fit in, such as 3D-object converters, so you might like to have a look through some back issues (page 106) for ones that might be of use to you.



19 worry about spending 15 grand on a piece of software, but they came to us to buy LightWave. You've got to ask yourself why?

**What was it like starting up and what difficulties did you encounter?**

**Andy B:** We were lucky – I don't think we had any difficulties. We did better than we thought, had more money than we thought – in fact, we didn't even need the DTI loan we had.

**Andy G:** We should have done it sooner.

**Andy B:** Yeah, it was a lack of balls why we didn't do it sooner. In the first months, it was a little tough living off £500 a month in London; we barely had enough to eat at times, but a few months later it went up to about a couple of grand.

**Andy G:** If we were to do it all again, I suppose it would have been easier with a bit more money. We've now got a video suite with a betacam and some musical equipment, so I suppose it would have been better if we had these at the beginning. But, at the time, we made do with what we had and it all worked out OK.

**What advice would you give to someone who is looking to start animating professionally?**

**Andy B:** One of the first things you should do is put together a demo tape. A low resolution HAM8 anim is fine, although a super-low resolution animation will be too chunky. Low-res HAM8 anims are quite smooth and can produce realistic playback speeds. The biggest problem is that most animators try to do things which are incredibly complicated, which of course you would hardly ever use. Most corporations are after relatively simple animations, such as logos.

The other thing is that when you have a film that is well-directed you see an animation of a ship, but you probably only see it in 2-second cuts. Most animators make the mistake of trying to create 30-second cuts – there has never been a 30-second special-effects cut. What they need to do is produce short animations, but at a high standard.

**Andy G:** We've spoken to some of the guys at Foundation Imaging, who get sent lots of tapes from aspiring animators and they said most of them are dreadful. The reason is usually because there is no attention to



Here's an atmospheric still taken from the Sonic Surfers video, which was produced in a week!

## Get equipped with the right hardware

Despite what most people would like to believe, you can't create Babylon 5-like animations on an unexpanded machine. It's simply not possible – you need extra speed, extra memory and a reasonable amount of storage space. Admittedly, these don't always come cheaply, but you make a saving in the amount of time you'll have to spend on projects – time, after all, is money.

If you don't have an AGA-equipped Amiga, you are going to need some sort of display enhancer, such as a graphics card. These have fallen in price since the introduction of the AGA-chipset and you can now pick them up quite cheaply. Some of the more popular boards include the Picasso, Retina

and the EGS Spectrum. They are still of use to 4000-users, as most of them have optional composite outputs and other handy features.

Another piece of hardware, which is also very useful, is the PAR card. The PAR card fits inside a big-box Amiga and provides video-quality playback from hard disk.

If you are going to undertake *really* big rendering projects, you'll no doubt benefit from the power of a dedicated rendering engine. Premier Vision will soon be stocking a new range of rendering engines, based on the DEC Alpha family of processors. They are ludicrously fast – running at speeds between 166Mhz and 275Mhz!

detail. So, I guess that's another important factor when creating a good animation.

**When you are discussing a project with a client, is it harder to find out exactly what they want, or is it more difficult to produce what they want?**

**Andy B:** Actually, most clients don't really know what they want. If they knew what they wanted, they would probably do it themselves and not pay us to do it for them. However, sometimes they'll come to us with a general overview and then we tend to fill in the details as we go. There are two important things to bear in mind; you can look at the project as an advert to potential customers, but you must weigh that up against the amount of time you can spend on it.

We like to produce the sort of projects that when a customer sees them, they'll be gobsmacked. There's that 'wow-

factor' we try to put into what we do. Although, sometimes someone might ask us to do something that they've seen in a movie – it might be something that we *can* do, but it will take too long for us to do it just right.

**Andy G:** Sometimes we put together a small animation, they see we can do it well and they want something more, along a similar line. Sometimes customers think they know what they want, but they don't. They might even give you quite a specific brief, we'll get on with the project for a week or two and, then, they decide to change

their minds and you've wasted two weeks. So, now we don't do things on credit.

**What's the most difficult kind of animation to produce?**

**Andy B:** It has got to be rotoscoping. If you are trying to composite live action with rendered animations, you have to get everything spot on, or people will know that something is wrong – they may not know *what*, but they will know.

For example if you are combining a sequence of a man walking through a room with a rendered floating ship, or something, you have to shoot the room twice. You'll have to shoot it with the man walking through and one without. If the camera's position moves even a fraction of an inch, you have to repeat that movement exactly.

That's one reason why in motion picture effects people use short cuts. In films like Jurassic Park, it may look as if you are watching a long sequence, but that's only because it's done so cleverly. Then, you've got to get the shadows right in LightWave – it looks cool when it's finished, but the whole thing is a nightmare!

**Finally, what is the most important factor in making a great animation?**

**Andy B:** There are two rules of thought on this. One is being subtle with effects so that they are not completely over the top. For example, in scenes involving a spacecraft, where everyone is sick to death of lensflares, don't use a 100 per cent setting – just

a slight lensflare to add a bit of realism, or even mix different types. It's the tiny details that are the key to making things look realistic.

However, there *are* times when you need to go completely over the top. A good example of this was when we created the music video to Sonic Surfers' new song. A lot of people who will be watching that will never have consciously seen a lensflare – so the lensflare value was pushed straight up to 200 per cent!

In the end it's a matter of using your efforts in the best possible way. Sometimes, even the simplest object can look good with the right textures and lighting. On the other hand, you could spend a week building an incredibly detailed ship, but if the light doesn't show it up, or if it moves around the screen like a brick, then you have wasted your time. ■

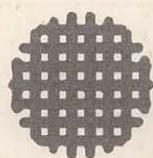


Andy Bishop looking very smug. Wonder why? Read the feature!



Here's a picture of the Premier Vision team – except Kevin, that is. Aren't they the "Wild Ones"?





**DIGITA**<sup>®</sup>  
INTERNATIONAL

**Direct**

**Money Matters**<sup>™</sup> ~~RRP £49.99~~ **£35**

Our best financial manager yet!  
Perfect for all types of home and business accounting, with charting, budgeting and forecasting facilities.

**Home Office** ~~RRP £49.99~~ **£35**

Contains the following software (without packaging), normally worth £149 if purchased separately.

- Mailshot Plus:<sup>™</sup> Easily store, print labels, and mailmerge with Wordworth.
- Day-By-Day:<sup>™</sup> An excellent way to get organised. You'll be reminded of birthdays and other appointments which are so easy to forget.
- Home Accounts: Keep track of your finances and use the planner to budget your spending.
- DGCalc:<sup>™</sup> Plan cashflows and financial forecasts with this simple but powerful spreadsheet.

**Datastore**<sup>™</sup> ~~RRP £69.99~~ **£49**

Storing information has never been this easy. On-line help and a range of templates get you going quickly: recipes, address book, world traveller, gardener's guide, club membership, video vault, home insurance inventory, super car collection and more. Just pick the most suitable template, fine tune as necessary, and then start adding your information.

You can even integrate with Wordworth to produce form letters or print address labels.

**Wordworth 3.1** ~~RRP £149.99~~ **£69**

Award-winning Wordworth<sup>®</sup> is the standard by which all other word processors are measured.

Innovations like DigiSense,<sup>™</sup> Auto Correct, TextEffects,<sup>™</sup> drag and drop editing, affirm Wordworth's title as the most popular Amiga word processor in the world.

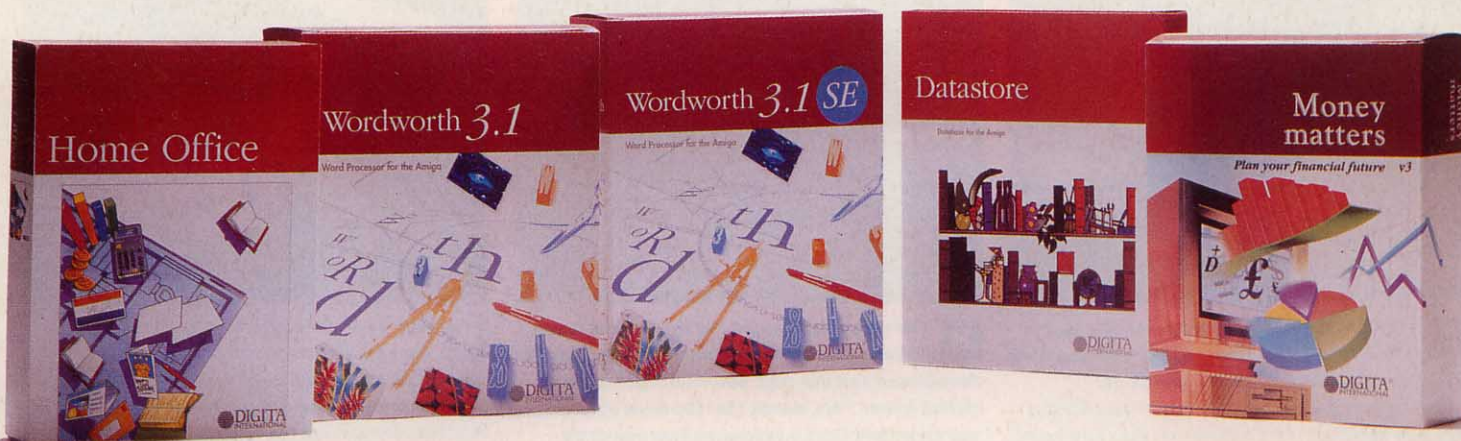
**Wordworth 3.1SE** ~~RRP £69.99~~ **£45**

Being less powerful, Wordworth 3.1SE offers a simple, low-cost alternative, and is ideally suited to the standard Amiga A1200.

Now everybody can find out why Wordworth is used by more people than any other Amiga word processor in the world.

# Five Of the best

from Digita International



All prices include VAT and delivery

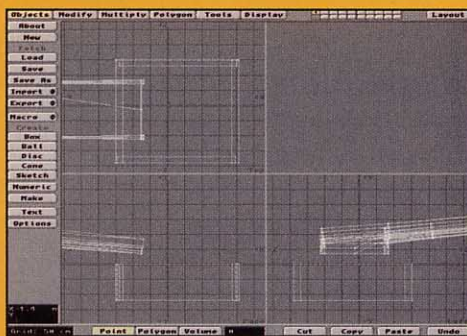
**Call Digita Direct 01 395 270 273**

Write to: Digita, FREEPOST, Exmouth EX8 2YZ Telephone: 01 395 270 273, Facsimile: 01 395 268 893

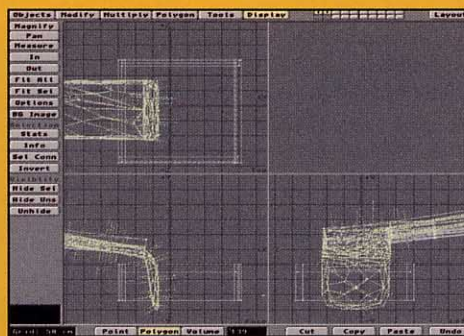
©Copyright 1995 Digita International Limited. All rights reserved. No part of this advert can be reproduced or copied in any way whatsoever. Wordworth, Digita and the Digita logo are registered trademarks, Money Matters, Mailshot Plus, Day-by-Day, DGCalc, DigiSense and TextEffects are trademarks of Digita Holdings Limited. All other trademarks and their owners are acknowledged. Sold subject to standard conditions of sale. E & OE



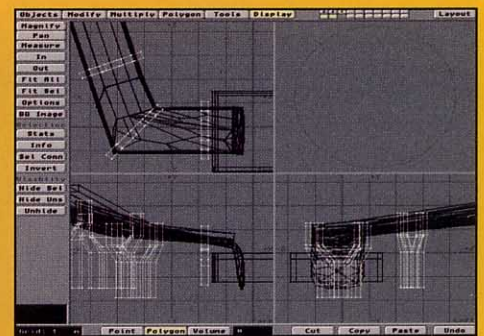
## How the cover was done



**1** After deciding that we were going to pay homage to James Cameron by creating a Terminator 2-style image – with lots of silvers and glowing orange – we set the cover image in a foundry. So, the first task was to model the pool and chute that hold the molten metal. The pool is a cube with a hollowed out centre, the chute is a more oblong shape which has been bent.



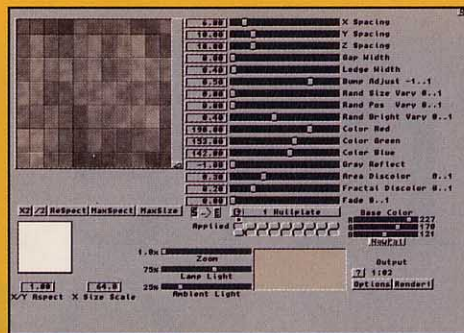
**2** The next step was to create the molten metal. Once again, the basic model is based on a cube that has been stretched and angled to fit the chute. To give a more rounded and liquid look, I performed a Metaform subdivide. This multiplies the number of polygons, while smoothing them and giving the object a blobby appearance. I then gave the polygons the name 'molten metal'.



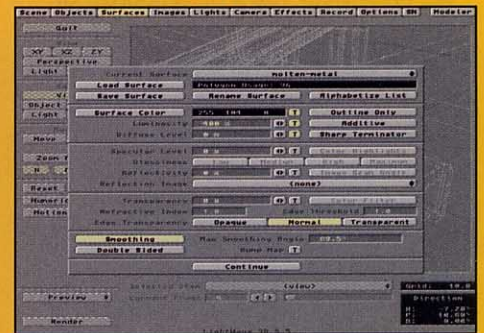
**3** Obviously, the chute would look a little odd suspended on nothing – not to mention unsafe! So, I built some supports – yes, you guessed it, they started out life as a cube. The cube has several sections, which gives scope for moving the polygons around to produce a rough Y shape. Next, I gave the surface the name 'old-metal' and then cloned the original and positioned the clones.



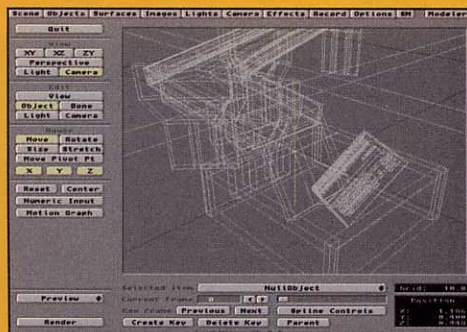
**4** After all the modelling is finished, it is time to start on the object's surfaces. For the surfaces of the chute, pool and supports, I decided to go for a rusted-metal look. As luck would have it, I reviewed the Pro Textures Combo Collection this month and it has a nice scanned sheet of rusty metal. I applied this to the old-metal surface as a cubic map.



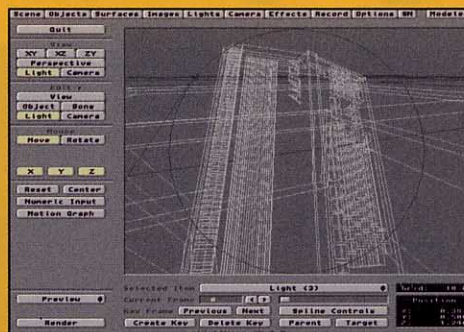
**5** For the floor of the foundry, we went for ceramic tiling. It is possible to create this surface in LightWave, but there are nice Essence II textures that would be perfect for the job. Using Forge, I loaded it up, changed its colour from blue-grey to a light brown and then rendered it as both a colour image and a greyscale one to act as a bump map.



**6** The molten-metal is the last and trickiest surface. I was looking forward to this, because it's more of a challenge as it needs to glow a little and is created totally in LightWave. The basis for this surface is the Fractal Noise texture. It's used as a colour, luminosity and diffuse level map. If I'd had the time, I would have created a translucent glow around the chute and pool.



**7** After the surfaces have been set, the next task is to set the camera angle. I got together with Nick, our Art Editor, as we needed to accommodate the Coverdisks, coverlines, Shopper logo and headings. This means that the focal point of the image has to be in the bottom-right corner. To get the view we wanted, I created a null-object and targeted it with the camera.



**8** The next step is to set the light of the scene. As far as we are aware, foundries are usually dark places and the main source of light is the molten metal. This means that the main light source should have a reddish-yellow colouring – the same as the molten metal. We also added a yellow light in the pool of metal and a spotlight aimed at the Amiga.



**9** Next we set about rendering the scene. It's done super-low res, so that we can check the light of the scene to ensure it won't be too dark and that the surfaces appear as expected. Most of the time, the camera was only in realistic mode. When we are happy with it, we set A4000 040 rendering at medium res – the image used on the cover took about 13 hours to render.



Next Day **£5.00**

2-3 Days **£2.50** Saturday **£10.00**

Deliveries are subject to stock availability

# POWER

TELEPHONE 01234 273000

POWER COMPUTING LTD

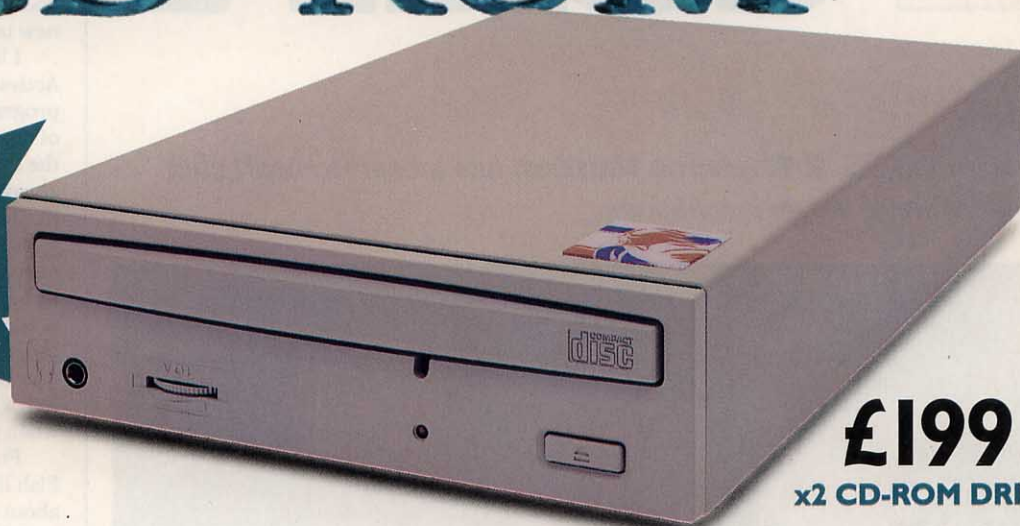
44a/b Stanley St. Bedford MK41 7RW

Tel **01234 273000** Fax **01234 352207**



# CD-ROM

**NEW**  
CD-ROM  
INC. CD<sup>32</sup>  
EMULATION

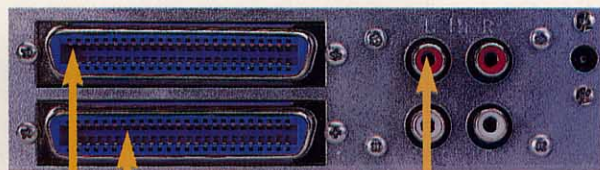


**£199**  
x2 CD-ROM DRIVE

## DOUBLE SPEED CD-ROM

The new double speed Power CD-ROM for the Amiga 600/1200 plugs directly into the PCMCIA port and provides a direct SCSI-I and SCSI-II interface, allowing up to six additional peripherals to be connected, for example: Syquest Drives, Hard Drives, Flatbed Scanners and Dat Drives. What's more the Power CD-ROM features a 'Hot-Plug' and 'Un-Plug', which allows you to connect/disconnect at any time the Power CD-ROM and any additional devices, even when your Amiga is switched on.

### REAR VIEW



SCSI Connectors

Audio In/Out

The CD-ROM comes complete with PSU, manual and a useful range of software utilities: Audio CD, CD32 Emulation, MPEG Film Decoder and PhotoCD software.

## COMPARISON CHART

	POWER	OTHER
DOUBLE SPEED, MULTI SESSION	✓	✓
MAX TRANSFER (INTERFACE)	3MB	1.5MB
CD32 EMULATION	✓	✓
NUMBER OF SUPPORTABLE DEVICES	7	1 OR 2
THRU PORT FOR ADDITIONAL DEVICES	✓	-
HIGH QUALITY METAL CASING	✓	-
FULLY SUPPORTS 'HOT UN-PLUG'	✓	-
AUTOMATIC BOOTING OF CD-ROMS	✓	-
CD + AMIGA SOUND MIXING FACILITIES	✓	✓
COMPATIBLE WITH ACCELERATOR CARDS	✓	?
12 MONTHS WARRANTY	✓	✓
COMPLETE WITH UTILITY SOFTWARE	✓	-
<b>COST</b>	<b>£199</b>	<b>£199</b>

### Prices for Amiga 600/1200

Double - Speed  
CD-ROM ..... **£199**

Quad - Speed  
CD-ROM ..... **£299**

Amiga 4000 Version  
CD-ROM ..... **£POA**



80 WATT  
SPEAKERS  
**£54**

Trade and Educational orders welcome - Worldwide distribution available

All prices include VAT. Specifications and prices are subject to change without notice, all trademarks are acknowledged. All orders in writing or by telephone will be accepted only subject to our terms and conditions of trade, copies of which are available free of charge on request.





# Straight **talk**

Our man in the US, **R Shamms Mortier**, has a heart-to-heart chat with Jeff White of Visual Inspirations.



Jeff White, the inspiration behind Visual Inspirations, peers through from an Amiga dream.

"If the Amiga technology is available to more companies, more people will see the **advantages** that we have known all along."

**V**isual Inspirations are the company behind products such as Transporter, Pro Textures (see page 48 for a full review) and Mailing List Manager. They are also responsible for many other products, as R Shamms Mortier discovered when he visited the man at the helm of Visual Inspirations, Jeff White. The following is a record of their conversation...

*How long have you been associated with developing software for the Amiga?*

Well, I bought my Amiga in early '86. I started writing software in Amiga BASIC. I released a few shareware programs in BASIC that had sound, graphics and such. It was fun, but limited. I had bought an Amiga because I wanted to do graphics.

I looked for a long time for a programmer that would let me do the graphics for the interface and let him or her do the rest. Well, after not being able to find anyone that was interested, I decided to learn C and do it myself. I have been using it ever since.

*I understand you have a previous association with the Amiga community in England. Can you give us the details on what that was and how it came about?*

At the same time as I bought my Amiga, I helped start a local Amiga user group, called the Tampa Bay Amiga Group (TBAG). I was elected President and decided to put together a disk of Public Domain programs for each month's meeting. Everything had icons and documents and soon became very popular with new users everywhere.

I later wrote a custom interface called Activator which allowed you to run all the programs from its screen. It seemed that most of our orders were from England and most of the PD houses there carried the collection. I always chuckled that it must be because they like tea so much that TBAG became so popular.

I also wrote quite a few shareware programs that got passed around. Some of the most popular were Showiz (a picture display program) and CLI Wizard (a DirOpus type program). One thing that almost every Amiga user has probably seen is a little icon I did. It was a little book that said Doc File on it and when you click on it, it will open.

Fred Fish started using this icon on the Fish library for his text files – then, just about everywhere I turned it was showing up on other disk magazines and a lot of commercial software. If I only had a penny for every time I saw it...

*What are the most exciting features of your latest wares?*

I guess I have to start with our first product which was Pro Textures. Leo Martin is a superb graphic artist and put together this collection of 24-bit real world seamless images. No matter what shape or size object you have, you will never see a seam. The Flagstone, Brick, Fire and Marble are my favourites.

Transporter was our next product, supporting more display devices and single frame controllers than any other program in the galaxy! It basically automates single frame controlling, rotoscoping and batch processing.

Another product is Mailing List Manager which is basically designed for mailing lists, but can be customised by the user for just about any application. It also allows you to link into ProPage and PageStream for more printing options.

Next up, we have Artwork's Clip Art Library – most Europeans are already familiar with this product, because the company is based in England. We are the distributors in North and South America. It features super clip art, covering just about every subject.

Then there is Batch Factory which is based on routines in Transporter that were made into a standalone product. It has over 350 scripts that cover almost every product that supports ARexx. It makes batch processing very simple.

Digital Sound Track is the audio version of Transporter. It allows you to add sampled sounds and MOD files to your videos and animation. It gives you full control of your VCR or PAR board with Picture-In-Picture support for both Opal and IV24 boards.



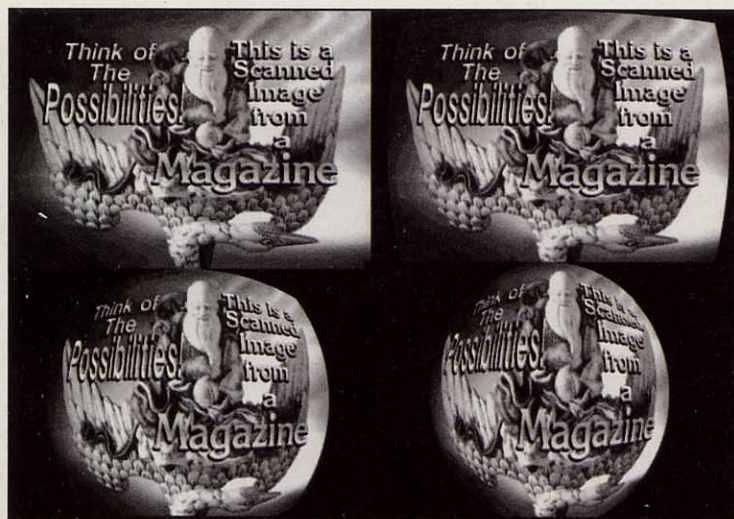
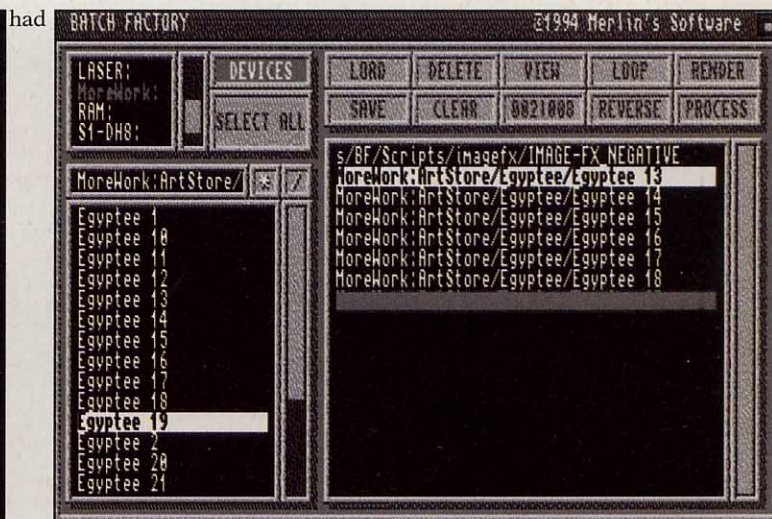
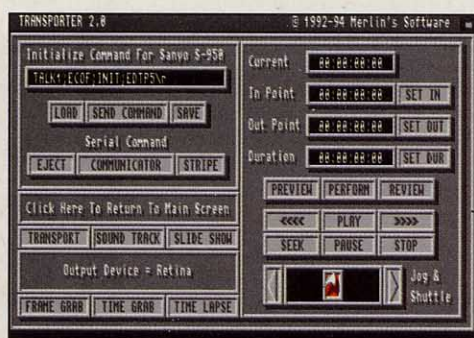


Image processing done in ADPro and processed through Batch Factory.



The main Batch Factory interface screen, making batch processing very easy.



Transporter's action interface, automating single frame controlling, roto-scoping and batch processing.

Another product is RoadSigns by Jose Burgos – a collection of Road Signs for LightWave. Over 50 different objects, plus a construction kit which allows you to add the text for an unlimited amount of signs.

Surface Pro by Leo Martin is based on his Pro Textures series, but takes up much less memory and includes over 60 new surfaces for LightWave. Although Pro Textures can be used by any 2D or 3D program that supports 24-bit images, they are specifically made for LightWave.

**Where did the idea for Transporter come from and how do you think this version differs from its first inception?**

NewTek had just released the Toaster and Leo approached me with the idea to automate the process of single framing. I loved the idea and we just kept adding ideas to it. The first support was for the Toaster and the Vlan controller (because that was all the equipment we had).

I started adding more display devices and controllers to it. Then, the other routines came – sequential frame grabbing, time lapse, slide show and batch processing were all added before the first version hit the shelves. Since then, we have added a few more goodies and support for just about every display device and single frame controller on the market.

**How long has Visual Inspirations been in operation and where is it going in terms of development and marketing?**

I started Visual Inspirations in June 1993. We

released Pro Textures and Transporter through another company, but had problems with them and I decided to go it on my own. I was a professional magician for seven years (which is where the name Merlin's Software came from). I wrote five books on magic tricks that I had created and lectured on around the US.

The name of my first book was Visual Inspirations and I had always loved that name, so when I started the new company, I wanted a name that did not limit us to just software (like Merlin's Software) – so, Visual Inspirations was born. We still copyright the products under Merlin's, but the parent company is VI.

As far as future development, I am one of those, so-called, Amiga fanatics and as long as we can earn a living making products, we will (and I feel that will be a long, long time).

**Has the dissolution of Commodore affected your operation?**

For about a month after the announcement

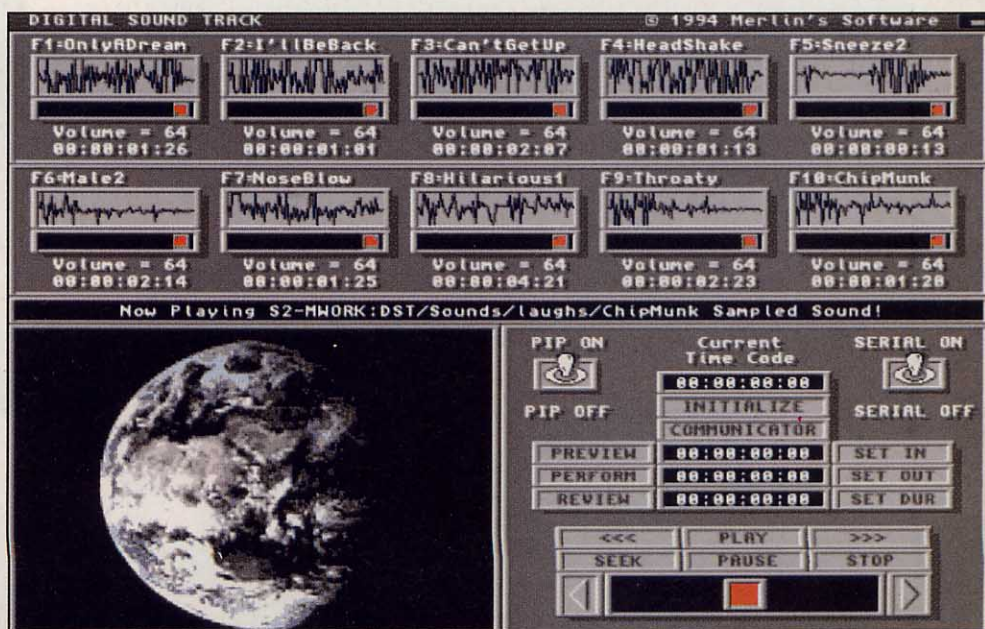
business almost came to a halt, but after the initial shock was over, orders started coming in again and it has been better than ever.

Commodore was a major obstacle from the very beginning, but now that they are out of the way, I feel that whoever takes over will do a much better job (they can't do any worse). The Amiga Operating System (OS) is one of the best and I would hate to have to leave it behind.

**Where would you like to see the Amiga head at this point if, and when, another corporate entity takes over?**

I think this is the best thing that could have happened. If the Amiga technology is available to more companies, more people will see the advantages that we have known all along – an Amiga card for the PC, TV tabletop boxes, etc.

The OS is just too strong to kill off in my opinion and I look forward to a brighter tomorrow. ■



A picture of Visual Inspirations' Digital Sound Track with the Picture-In-Picture display turned on.







# Modem mania?

Fancy getting on-line? **Richard Baguley and Clive Parker** look at the state-of-the-art in modems.

**T**he benefits of being on-line have been explained in great detail in a number of articles recently, so I'll spare you the hype. Let's just say that if you aren't on-line, you aren't even in the running for the coveted title of "Person most in touch with the cutting edge of technology".

Anyway, if you want to find out what all of this "Information Superhighway" stuff is about, you are going to need something to get you on-line – a modem.

For those of you who haven't come across the term before, the name is an abbreviation of "modulator-demodulator". What it does is take the digital information that your computer sends and turns it into a hideous squealing noise, somewhat akin to a pig being poked with a pointy stick. The modem at the other end of the phone-line listens to this noise and transforms it back into digital information, which is received by the remote computer.

Of course, the process is (like all things computer-based) a lot more complex than this. For instance, there are a variety of different types of modems which can send data at different speeds. See the box headed "Sod the standards" on page 31 for more details.

## Supra Fax Modem 288

We were hoping to review this modem in our Supertest, but this was, unfortunately, not possible. Supra initially shipped a V-Fast model with the promise of a simple upgrade to the full V.34 standard. However, when the V.34 standard was finalised, it emerged that the upgrade would involve replacing one of the chips, a process which could only be carried out by Supra, or a dealer with the necessary equipment.

Supra have now started shipping a full V.34 model, but many dealers have had problems getting hold of them. One

dealer told me that a shipment of Modems they received was composed of a mixture of V-Fast and V.34 models. As nobody wants to buy the V-Fast class Modems, now that the V.34 models are available, the dealer was not amused, to say the least.

Unfortunately, we were not able to get hold of a V.34 model and we felt it was unfair to review a V-Fast model when it is due to be replaced by a new model. So, this modem has not been awarded a percentage mark, although you will find full details of the specifications of the modem in the box headed "V for validation" on page 32. Rest assured that as soon as we can get hold of a full V.34 model, we will review it in these pages. You should also note that all of the Supra Modems are not BABT approved. See the box headed "Approving noises" for more details.

Anyway, what we have seen of this modem shows that its construction quality is up to Supra's usual high standard, with a thick metal case and a LCD display on the front which gives information on the status of the modem. There are also a selection of lights which give further information.

## Supra Fax Modem 288

"We were unable to do a full review, but it certainly looks like it will continue Supra's important position in the modem market."

**Price:** £229.99

**Supplier:** First Computer Centre

**Contact:** 0113 231 9444

**Verdict:** n/a

## Supra Fax Modem V.32Bis

This modem has become something of a classic. Although it is not BT approved, it has been a best-seller and has found use on many prominent BBSs. Early models did

"If you want to find out what all of this '**Information Superhighway**' stuff is about, you are going to need something to get you on-line – a modem."



**V-Fast versus V.34**

The newer modems in this Supertest are either V-Fast class or V.34, but what is the difference? Well, the V-Fast standard was designed as an intermediary, while the V.34 standard was being finalised (see box headed "Sod the standards" on page 31).

In practice, this means that there is very little difference between a V-Fast class modem and a V.34 model. A V.34 modem should have no problem talking to a V-Fast model and our experiments revealed that this was in fact the case.

The two protocols do differ, but the differences are pretty minimal, so you should not necessarily be put off buying a V-Fast modem purely on the grounds that it is V-Fast only.

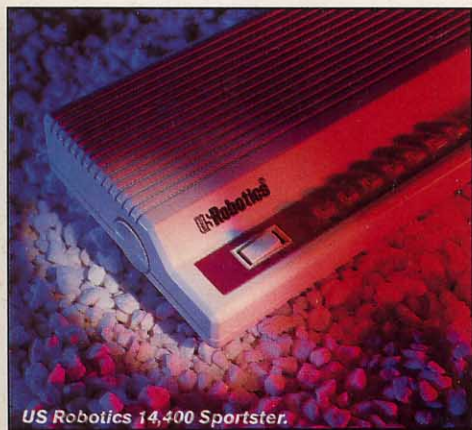


**Courier**  
**Dual Standard V.32.**



**Supra Fax Modem.**

"This means that there is very little **difference** between a V-Fast class modem and a V.34 model."



**US Robotics 14,400 Sportster.**

suffer some problems, with many users complaining of unreliable connections and poor behaviour on bad telephone lines. However, a number of ROM updates have solved most of these problems, although it does occasionally still refuse to connect with some telephone exchanges.

It's certainly well constructed, with a tough metal case which should shrug off most things you could drop on it (with the possible exception of the 16 ton weight, beloved of cartoon characters). The only real complaint is that the plastic cover at the front of the case is a bit flimsy and does not offer *that* much protection to the LED display behind it. This display gives you information on the status of the modem (showing AA if the modem is in auto answer mode, or DI if it is dialling) and four lights give you a good idea of how your call is progressing.

There is also a piezo electric speaker on the underside of the modem which is used to monitor the call. Using a piezo electric speaker helps keep the cost of the modem down, but the pathetic, tinny noise which emanates from this is incredibly irritating. Unlike the US Robotics modems, there is no volume control, so I ended up turning the speaker off. Although this solved the problem, it did mean that I could not really monitor the progress of the call, which was a pain.

At the rear of the modem are the standard connectors (power, serial port, phone line and a pass-through for a phone handset or answering machine). Connection speeds of up to 14,400 bits per second (not counting data compression) can be achieved, but if the quality of the phone line does not permit it, the modem will happily work at a lower speed.

The modem supports Group III fax send and receive and there is a special version of GP Fax designed to work with this modem. In use, this modem performed well, although it did seem a little more eager to slow the speed of the connection down on a bad telephone line than some of the others.

However, it's certainly no slouch in the performance department. It's not exactly state-of-the-art, but it is now at a good price and should continue to be held in the high esteem which it has already earned. If you are looking for a cheaper option, the LC version of this modem (which lacks the LED display and only supports Class 1 fax commands) is available for £33 less.

**Supra Fax Modem V.32 Bis**

"Technology may have moved on, but this modem remains an important player in the modem market."

**Price:** £169.99 (£136.99 for LC version)

**Supplier:** First Computer Centre

**Contact:** 0113 231 9444

**Verdict: 85%**

**Frontier XL28E**

Frontier continue their tradition of seemingly meaningless names for their

range of low-priced, but powerful, high-speed modems with the XL28E.

Actually, the name isn't completely devoid of meaning – the '28' in that snappy string of digits indicates that it's capable of shifting data over the phone lines at a zippy 28,800 baud – twice the speed of your average fax-modem.

Oh, yes, the 'E' means it's an external modem. The XL28E is one of the first low-cost V-Fast modems on the market. And if you think that £250 isn't particularly low-cost, take a look at the prices of the other 28,800 modems.

A wonderfully sleek, black case houses the modem and it stands neatly on its edge next to your Amiga. Instead of the usual row of rather bizarrely marked LEDs, there's a neat icon panel that lights up to let you know exactly what's going on – much needed at times. Apart from the power switch, there are no other buttons, knobs or switches to fiddle about and get confused with on this modem. Hurrah!

But the XL28E isn't just a sleek, gleaming, black box. There's a powerful communications engine tucked inside, just begging for you to plug it in to your Amiga.

Even though the XL28E is a V-Fast modem, not a V.34, we had no problems at all connecting to any 28,800 baud on-line services using it. To get it up and running, we just plugged it in and used our existing modem settings and Comms software.

Within a couple of minutes, we were connected to CompuServe – it was that simple. The XL28E handled everything we threw at it perfectly, even connecting to a couple of US 28,800 boards first time without any problems.

Just because a piece of kit looks good, it doesn't necessarily mean that it's going to be the best of the bunch. In this case, however, Frontier have combined good looks and good engineering – merged seamlessly together to present a powerful and inexpensive modem.

If you need a 28,800 baud modem right now, this is the one to get.

**Frontier XL28E**

"It looks good, has lots of flashing lights and even works well. What more could you want?"

**Price:** £257.33

**Supplier:** Electronic Frontier

**Contact:** 01734 810600

**Verdict: 90%**



Star buy

**Courier Dual Standard V.34**

With the Courier Dual Standard V.34, US Robotics are one of the very first manufacturers to come up with a true V.34 modem that conforms exactly to the V.34 specifications.

The Courier is traditionally styled. It's a large, flat, black plastic box with a fantastic array of red LEDs across the front panel, all marked with the usual baffling two and three letter legends, informing you about MR, DTR and so forth. With this styling, you'd almost



expect to plonk your phone on top of the Courier, just like in the good old days of Comms.

US Robotics have kept the number of physical controls on the Courier to a useful minimum. The only control on the rear panel is the power switch, while a Voice/Data switch gracefully adorns the front panel alongside a cleverly hidden volume control. The usual phone and line sockets are tidily tucked away at the back of the modem.

Getting the modem up and running is dead easy. US Robotics have thoughtfully supplied a quick reference guide for those eager to get on-line straight away. Following the guide, you can just plug the Courier in and power up your system. There's also a large, comprehensive and very technical manual for those who like to start messing about with S-registers and other arcane modem settings. It's really best to leave that kind of thing alone, unless you really do understand Comms.

Connecting to BBSs and services is easy. In most cases you just have to select the US Robotics Courier option from within your Comms software. Over a couple of days we used the Courier for a variety of uses, including connecting to CompuServe, CIX, a couple of BBSs and the Internet. In all cases, it worked perfectly.

As with most US Robotics modems, the Courier uses flash ROMs. This doesn't mean that they're hyper-fast, or send out beams of light, or anything like that. It means you can download the newest version of the ROM software and install it into the modem to make sure it's fully up-to-date. This is great for sorting out bugs in the ROMs – instead of physically replacing the chips, you just replace the code. Not that there are any bugs in the code. Perish the thought.

The Courier is great because it's easy to set up and easy to use. It loses a few marks because of its high price – nearly six hundred quid – and the plastic case, but, if you get the Courier, you won't be disappointed with it. You should also shop around – we have seen this modem advertised for as little as £316.99. If you are planning some heavy use (such as a modem to use on a BBS), then this is the one I would recommend.

### US Robotics Dual Standard

"An extremely powerful, reliable and generally cool modem. Expensive, but ideal for heavy use"

**Price:** £586.33

**Supplier:** US Robotics

**Contact:** 01753 811180

**Verdict:** 90%



Star buy

### MultiTech MultiModem II

The MultiModem II is blessed with the build quality of a Chieftain Mk 2 tank and is about as aerodynamic as a large, square thing. If you want a good, solid, workmanlike modem, then this is the one

for you. If you want a thrilling, sexually attractive modem, then look elsewhere.

Tucked away inside the solid metal case is a modem to rank with the best – after running all day non-stop, the modem was as cool as when we first switched it on. There'll be no jokes about frying eggs when you use this beast.

The ubiquitous long line of LEDs on the front panel blink insanely at you when you are on-line, almost as if they expect you to be able to discern some meaning in their flashing. MultiTech have decided to do away with almost all external controls, the MultiModem II simply has an awkwardly placed power switch on the back panel and a Voice/Data switch alongside the 14 LEDs (count 'em) on the front panel.

The MultiModem II performs brilliantly. We had less problems setting up and running this modem than any of the others – without even looking at the manual. The manual supplied is the size of a small Bible and is probably the most comprehensive guide to using modems ever written.

We connected to several BBSs, CompuServe and the Internet without any problems at all. Data transfers were performed without a hitch at all speeds up to 28,800, and we had no problems connecting to slower services. It even worked well with a dodgy phone line, which is more than can be said for some of the modems featured in this Supertest.

The MultiTech II is designed as a professional V.34 modem, that's why it's so rugged and expensive and will probably last longer than your Amiga. So, in spite of the expense, it's well worth considering.

### MultiTech MultiModem II

"Professional, solidly built and expensive. Plenty of flashing lights and incredibly solid construction."

**Price:** £821.33

**Supplier:** PPCP Limited

**Contact:** 0181 893 8877

**Verdict:** 75%

### Interdial M5134

The Interdial M5134 is an easy to set up modem that you can use to replace your existing modem just by plugging it in. Your existing Comms settings should work without any problems even at 28,800 baud.

The Interdial is a neat little modem in the traditional style, a sturdy slab-shaped metal case, big enough to sit under your phone, or an external CD-ROM drive. Nine LEDs are studded along the front panel, so you can be sure of the status of your call, as long as you know what all the lights mean!

The only control is the power switch on the rear panel, and the only connections are the serial port and the telephone line socket. It's all very easy to set up and use.

The manual is rather technical, but can be largely ignored, unless you really want to get into messing about with the internal settings of the modem. As usual, fax software for

"Just because a modem looks **good**, doesn't necessarily mean that it's going to be the best of the bunch."



MultiTech  
MultiModem II.



US Robotics  
28,800 Sportster.

### Approving noises

One of the issues about using modems which concerns many people is BABT approval. The situation is relatively simple: under the terms of the 1981 Telecommunications Act, it is an offense to connect any device to the public telephone network which has not been approved by the appropriate body. In theory, the penalty could be a significant fine. The body which deals with approving modems is the BABT. When a modem is submitted to them for approval, they carry out a series of tests to establish that the modem is not likely to damage the phone network. The functionality of the modem (i.e. how good it is) is not tested by this process, so BABT approval does not necessarily have any implications for the quality of the modem.

The cost of the approval process can be high, and this is why some manufacturers do not put their products in for approval. Many manufacturers maintain that their tests are more comprehensive than the BABT tests, thus rendering them invalid.

The fact of not being approved does not seem to have affected the sales of many modems: the Supra Fax Modem V.32bis is not approved, but it has long been a best-seller. Although connecting this phone to the network is technically an offense, I am not aware of anybody ever being prosecuted for this. Many popular BBSs have been using these for several years without being cautioned or prosecuted by BT, so it would seem that this is not high on BT's list of priorities. Perhaps they are too busy counting their profits from their grossly inflated prices...



DON'T



A



AND PUT

ALL YOUR



IN 1 BORING



THINK



WITH OUR

NEW



INTERFACE

If you're thinking about buying a new peripheral for your A1200 or A600 then ... *don't* ... until you've considered our brand-new, plug-and-play SCSI 2 interface and our exciting range of modern storage devices.

Named after the famous storage-hungry animal, the Squirrel™ SCSI 2 interface simply plugs into your PCMCIA slot and allows you to connect up to 7 (yes, 7!) SCSI devices to your Amiga at the same time. Just think of it, a triple-speed CD-ROM, a SyQuest™ removable drive, a DAT drive, a Magneto Optical and a Tape Streamer, all on-line and all available at any time!

All this is a reality with the amazing Squirrel™ SCSI 2 interface.

The Squirrel comes complete with SCSI software drivers, a host of useful SCSI programs (audio CD player, CD-to-HD sampler etc.) and is also extremely compatible with the CD32 so that, with a suitable CD-ROM drive, you can run games like Diggers, Brutal Football, Liberation, Pinball Fantasies etc. etc.

But there is much more to SCSI than CD-ROM; SCSI is an industry-wide standard which means that you can



the neat Squirrel SCSI interface

plug any SCSI external device into the Squirrel interface and daisy-chain units together. No longer are you forced into a closed solution - with Squirrel, your Amiga will grow with your needs.

Incredibly, the Squirrel SCSI 2 interface costs only £69.95 including VAT and is available now from all good Amiga suppliers or directly from HiSoft.

To complement the Squirrel interface we have released a number of quality peripherals - professional Squirrel Storage Systems™ at nutty prices!

### Squirrel Storage Systems

Squirrel Storage Systems come either bare (int - ready for installation internally) or fully-cased (ext) with integral power supply, SCSI in/out, SCSI ID selector and audio out (for CD-ROM). The cases we use are high quality, shielded, snap-together enclosures, each with 40W power supply. These are available separately at £69.95 each (specify 3.5" or 5.25" when ordering). All prices include VAT!

### SCSI CD-ROM Drive

The SuperTriple™ CD-ROM drive offers 510Kb/sec transfer, 190ms access, tray-loaded, PhotoCD™ multi-session, CD32, CD-DA & more; a brand-new, super-fast, feature-packed unit at a fantastic price...

SuperTriple™ int £189, ext £249.

### SCSI SyQuest™ Drives

Transportable storage is here with the solid, proven SyQuest™ 88Mb and 270Mb removable drives. Great for backup and moving your work between machines...

88Mb int £289, ext £349. 270Mb int £439, ext £499.

Drive prices include 1 free cartridge.

Extra cartridges: 88Mb cart £59, 270Mb cart £59

### SCSI Hard Drives

Modern, fast (11ms seek) hard drives, all with 128Kb cache, at great prices...

540Mb int £259, ext £319, 730Mb int £299, ext £359.

We can supply all necessary leads, terminators etc. Please feel free to discuss your exact requirements with our friendly, technical staff.

# HiSoft SYSTEMS

The Old School, Greenfield  
Bedford MK45 5DE UK

Tel: +44 (1525) 718181

Fax: +44 (1525) 713716

### Ordering Information

All HiSoft products (see the complete list below) should be available through your favourite Amiga dealer. If you have difficulty in obtaining any title you can order directly from HiSoft - just call us free on 0500 223660, armed with your credit or debit card; we will normally despatch within 4 working days (£3 P&P) or, for £6, by guaranteed next day delivery (for goods in stock). Alternatively, you can send us a cheque or postal orders. All prices include VAT. Export orders: please call or fax to confirm pricing and postage costs. © 1995 HiSoft. E&OE.

**HiSoft products for your Amiga:** Aura 12/16 bit sampler - £99.95, Megalosound 8 bit sampler - £34.95, HiSoft Devpac 3.14 - £79.95, HiSoft BASIC 2 - £79.95, HighSpeed Pascal - £99.95, Gamesmith - £99.95, Termite - £39.95, Twist 2 database - £99.95, Maxon Magic - £29.95, Upper Disk Tools - £14.95, VistaPro Lite - £24, and more.



29 ► Windows and DOS is supplied as standard and is completely useless for your Amiga. Fortunately, there is plenty of PD software available (such as the excellent Comms program NComm), so this isn't a real problem. See the box headed "The PD Connection" for more details.

In use, the modem worked perfectly at all speeds up to 28,800 bps connecting to BBSs, the Internet and sending faxes. The built-in PSU means you don't have to mess with external power supplies. Even though there is a fairly hefty power transformer inside the case, the M5134 stayed really cool even when it was left running all day. The M5134 is a reliable and sturdy workhorse of a modem that won't let you down.

### Interdial M5134

"Traditional, but well done. The sort of modem that you can plug in and forget about..."

**Price:** £293

**Supplier:** Modular Technology

**Contact:** (01869) 321323

**Verdict: 75%**

### Sonix Volante Fast V.34

Now this is a tasty looking modem. In fact, it could possibly be called the "modem of the Nineties". Designed to look like an external 'mini-tower' hard drive, the Sonix Volante Fast stands upright on a pair of feet and adds a very professional air to your Amiga set-up.

Although it has a price-tag out of the reach of most home Comms users, the Volante Fast is housed in a plastic case. Admittedly, it's a large, well designed plastic case with loads of features, but... a *grand!* For almost a *thousand* pounds, you expect something that feels a little more substantial.

Unlike any other modem we've seen, the Volante Fast doesn't rely on the usual line of red LEDs on the front panel. Instead, a large LCD screen at the top of the front panel displays the status of the modem and lets you know exactly what's happening during your on-line session in plain English. Modems such as the Supra rely on you knowing what certain mnemonics mean (such as DI, AA and 28), but the Volante tells you exactly what is going on. None of that tiresome technospeak here! There are, of course, a group of nine LEDs below the LCD screen as a back-up, just in case you can't figure out what 'connected 28,800' actually means. Oh well.

A nice touch is a reset button enabling you to get out of a 'hung' connection with the minimum of fuss and return the modem to its default settings. Apart from the reset button, the only other physical control is the power switch. Every other setting is controlled by the standard AT commands.

An informative pair of manuals ensure that you quickly get up and running. There were a few hitches at first that meant editing the modem initialisation strings in our Comms software, but the manuals are actually quite helpful and they were sorted out in a couple of

minutes. A few test connections to our favourite BBSs and CIX tested the Volante Fast up to 14,400 baud, while a quick call to a couple of 28,800 BBSs enabled us to test the Volante to its true speed. It worked perfectly.

The Volante Fast has been designed with the business Comms user in mind and has a professional price tag to go with it. Although it's expensive, it's also very reliable and easy to use. If you are in a situation where reliability and ease-of-use is vital, then you would do well to consider the Volante.

### Sonix Volante Fast V.34

"Expensive (!), but there is no doubting the quality of this modem. Extremely easy to use."

**Price:** £934.13

**Supplier:** Sonix Communications Limited

**Contact:** 01285 641651

**Verdict: 68%**

### Sportster 144

This modem was launched way back in 1993. As usual with computers, things have moved on since then and the Sportster 144 is no longer the state-of-the-art. That doesn't stop it being an extremely good modem, combining the reliability for which US Robotics are rightly famed, and an extremely low cost.

With the launch of the new Sportster 288 model, this modem has recently undergone a rather nice price-cut – it now sells for just under £140. It's an interesting example of how quickly these things move on – I remember paying a similar sum for a V.22bis modem a few years back and being very pleased that I'd got such a good price.

It's an old joke, but the closest thing to the Sportster in appearance is the Stylophone. Stylish it ain't, but it does the job. The case is made of quite thin plastic with slots on the top for the loudspeaker. These are just the sort of things that you are bound to spill coffee into, but what are you doing drinking coffee next to your computer anyway?

Seven lights on a panel at the front give you the information on how the modem is feeling and a number of dip switches allow you to change how the modem starts up. All of the other settings are controlled by standard AT commands, but this isn't the sort of modem which is going to need a lot of fiddling around with. The phrase "plug and play" springs to mind, but fortunately you don't have to own a PC to use this modem.

At the side of the Sportster 144 is a volume control, which is incredibly useful – you can adjust the volume so you can hear what is going on without it being irritating. A definite point in its favour if you are planning a lot of use. The power supply is an external lump which plugs into the rear of the modem. This means that the modem is reasonably cool during use, although it can get a bit warm during a long call.

Although it's no longer the flagship of the US Robotics range, this is still an extremely good modem and will find a lot

## Sod the standards

Although there are many hundreds of different modems manufactured, most of them abide by a series of standards, so that it is possible for modems manufactured by different manufacturers to still talk to each other.

These standards are not defined by the manufacturers, but by an organisation to which most of them belong: the ITU-T (International Telecommunications Union, formerly known as the CCITT). These standards are referred to as the V standards, and each has a number. For instance, the V.22 standard allows a modem to send and receive data at 1,200 bits per second. As time moves on, these standards get faster, with the most recent addition (V.34) which can send data at a phenomenal 28,000 bits per second. However, please note that there are two versions of this standard. See the box headed "V for validation?" for more details. This is approximately 11 times faster than many older modems which use the V.22 standard.

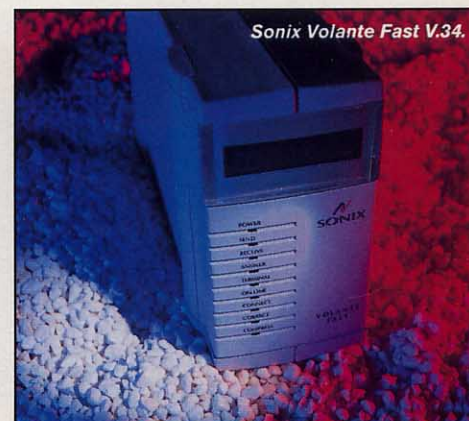
As you might expect, a faster modem can mean lower phone bills. If you can download a file quicker, you spend less time on-line and the cost of the call is less. So that you can see what sort of difference a faster modem can make, here's a few examples of how long a 130K file would take to download with the different types of modems (assuming that everything else is working alright):

Standard	Speed <sup>1</sup>	Time <sup>2</sup>	Cost <sup>3</sup>
V.22bis	4,800	290	34.8p
V.32	9,600	143	17.4p
V.32bis	14,400	98	11.6p
V.34	28,800	48	5.8p

1 – The speed (in bits per second) at which a modem of this standard can send or receive data.

2 – The approximate time (in seconds) to receive a 130K file.

3 – The cost of this call (at BT's normal long-distance rate of 50 seconds per 5.8p).





## V for validation?

The most recent modem standard is V.34, which was finally approved in June 1994. However, modem manufacturers are an impatient bunch and many of them couldn't wait for this new standard to be approved. So, they got together and worked out a slightly simplified version of this standard, which they gave the catchy name of V-Fast.

Since then, many V-Fast modems have been appearing on the scene, some of which promise upgrades to V.34. In practical terms, the differences are pretty minimal.

Although the V.34 standard has now been finalised, many manufacturers are still shipping V-Fast models. In the beginning, the manufacturers hoped that the upgrade to V.34 could be done by merely changing the software built into the modem, but it actually turned out to be a bit more complex than that. One particular chipset (the set of chips which form the heart of the modem), which was manufactured by Rockwell, has to be completely changed to upgrade to V.34. This chipset is used in a wide range of modems, including the Supra models.

The moral of this story? Check the exact specification of the modem you are thinking of buying and what upgrades are possible...

of use. However, I would seriously recommend that you consider investing another £100 or so in the V.34 model (reviewed below), as this could save you a lot in the long run in phone charges.

### Sportster 144

"A classic modem, now at an immensely affordable price. Recommended, although you should think seriously about spending extra on the V.34 model."

**Price:** £138.99

**Supplier:** First Computer Centre

**Contact:** 0113 231 9444

**Verdict:** 90%



Star buy

### Sportster 288

The most recent addition to the US Robotics range, this modem was launched late last year. It was one of the first to use the real V.34 standard as opposed to the V-Fast standard, which was designed as a stop gap while the V.34 one was still being finalised. For details of the difference between the two standards, see the box headed "V-Fast versus V.34".

Physically, the modem is almost exactly the same as the 14400 model, with two minor changes. The first is that the label on the front is green (instead of red) and the other is that the holes for the loudspeaker have moved. Instead of one single hole, there are now three smaller ones.

I would presume that this is something to do with the ventilation, as this modem does seem to run slightly hotter than its older cousin. This is certainly not a problem, though, and it's still a hell of a lot cooler than the Supra modems.

In use, the modem performs very well indeed. I was able to achieve V.34 connections to nearly all of the BBSs we used to test the modems in this Supertest. However, it *did* move down to a slower speed on one in the United States, where the quality of the phone line left something to be desired. The Sportster is certainly not alone in this, as

most of the modems exhibited similar behaviour in the same circumstances.

In all of the other tests we carried out it performed extremely well, with good connections and no loss of the carrier. Overall, this is an extremely impressive modem.

If you are a home user, this is the one I would recommend...

### Sportster 288

"A very good upgrade of a truly classic modem. It will definitely carry on the excellent reputation of the Sportster range."

**Price:** £234.99

**Supplier:** First Computer Centre

**Contact:** 0113 231 9444

**Verdict:** 92%



Star buy

### SpeedCom+ 28800

Er, well, the only thing that I can think of in connection with the Speedcom is a rather unpleasant 70's clock radio my mother used to own. Yuk! The case is plastic and about the size of a small paperback book. Frankly, I'm not overly impressed with the design, but it's the sort of thing you could live with if the product was particularly cheap.

In use, it seems pretty reliable. It coped well with transatlantic calls and dodgy lines, with no more of a tendency to drop the speed than any of the other modems. The only real gripe that I had was the fact that the loudspeaker for monitoring calls was very quiet and could barely be heard. With Morrissey Live blasting away in the background, it couldn't be heard unless you picked up the modem and put it close to your ear, which is hardly the best way to deal with these things.

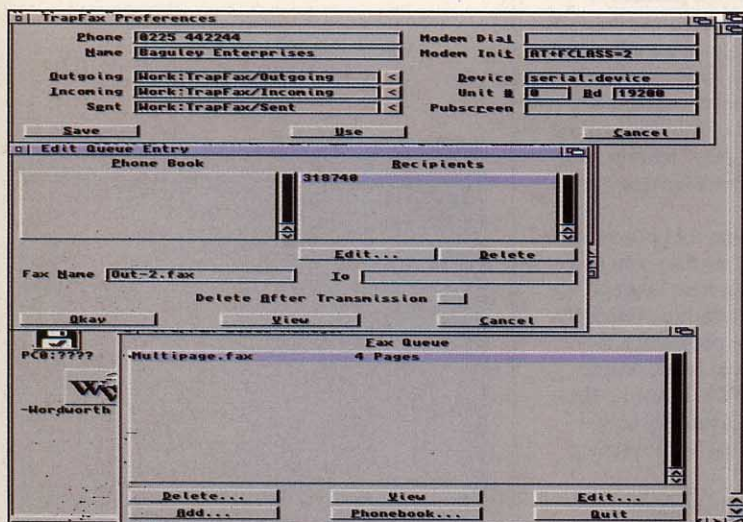
I did wonder if this was a fault with the review unit, but the 14400 model (reviewed on page 35) also exhibited the same symptoms. Nine LEDs at the front of the modem give you the status, and this is usually enough to work out what is going on, although it was sometimes difficult to work out how the connection process was proceeding when you couldn't hear it.



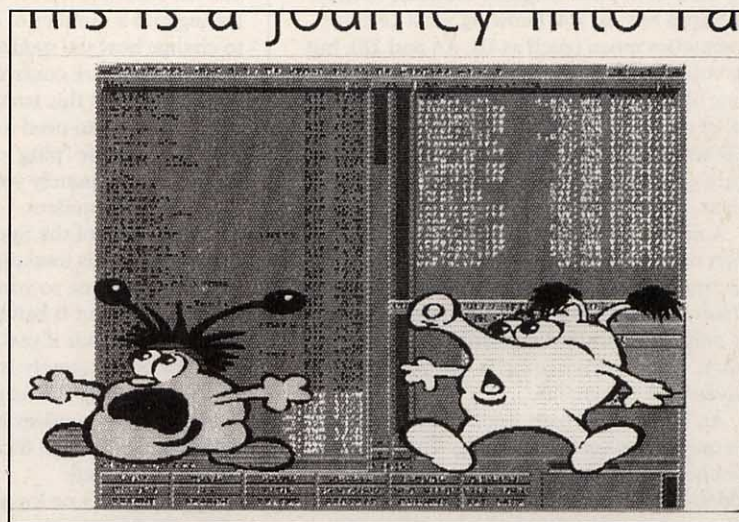
Interdial M5134.



US Robotics Sportster 288.



GPFax can be a printer driver, so you can fax documents from nearly any program.



The quality of images faxed through GPFax leaves something to be desired...



**MODEMS**  
Top quality feature packed fax-modems at amazing prices! All modems include a cable to connect the modem to the Amiga, NCOMM3 software, beginners guide to Comms disc and an 80 page manual. All modems include MNP 2 - 4 error correction, MNP 5 data compression and are FAX Class 1 & 2 Group 3 compatible. Please telephone for a full specification sheet.

Speedcom+B 14400 modem	£119.99
Speedcom+Et 19200 modem	£149.99
Speedcom+Bf 28800 modem	£199.99
GP FAX software	£39.99



**NEW  
LOW  
PRICING**

**SUPER LOW PRICES**

**NEW LOW  
PRICES**

**FREE  
VIDEO &  
STAKKER  
with every  
drive**

### HARD DRIVES

Our high speed 2.5" hard drives for the Amiga A600 & A1200 computers come complete with fitting cable, screws, partitioning software and full instructions and 12 months guarantee. They come already partitioned with Workbench installed for immediate use. We offer free fitting for personal callers.

20mb	£89.99	170mb	£179.99
40mb	£99.99	258mb	£204.99
60mb	£124.99	344mb	£249.99
85mb	£109.99		
120mb	£134.99	540mb	£449.99



**4mb  
only  
£169.99**

### MEMORY EXPANSION

A1200 4mb Memory accelerator with battery backed clock. Simple trap door fitting. Almost doubles the speed of the A1200. Zero wait state 32 bit wide Fastram. **£169.99.**

Expandable Memory accelerator with clock and FPU socket. This memory accelerator can be expanded from 2mb to 8mb and also have a Floating Point Unit fitted.

2mb	£129.99.	20mhz FPU	£39.99.
4mb	£189.99.	40mhz FPU	£79.99.
8mb	£329.99.	50mhz FPU	£119.99.



### ALSO AVAILABLE

A1200 CD ROM Drive

**£194.99**

A1200 3.5 hard drive fitting kit

**£17.50**

Viper 28MHz **£144.99**

Viper 33MHz **£214.99**

Viper 40MHz **£244.99**

### MONITORS

Excellent quality monitors for a superior picture quality with reduced eye strain.

Sharp 14" TV/Monitor

**£174.99**

Philips 8833 mk II monitor

**£249.99**

Microvitec 1438 monitor

**£288.99**



### SOUNDBLASTER

The SOUNDBLASTER is a superb stereo amplifier that comes complete with 50 WATT high quality 3 way speakers, power supply and free stereo headphones. The SOUNDBLASTER adds a new dimension to games playing with its stunning stereo sound.

**50  
watt  
speakers**



**NEW LOW PRICE £34.99**  
(plus £5.00 for postage and packing)

### X-BACKUP PRO

The most powerful disc back up system for the Amiga. Includes the unique Autoswitch Cyclone Cartridge (requires an external discdrive) that will enable you to back up virtually any floppy disc onto another floppy disc. Will also back up hard drives and includes a full file management system and dozens of excellent disc tools.

**FULL MONEY BACK GUARANTEE:-** If at the time of purchase you can find a more powerful disc back up utility, we will refund your money!



**£39.99** (plus £1.00 for postage and packing)

# Excite your

### FREE

'HOW TO FIT YOUR HARD DRIVE' video and Stacker disc to increase the drives capacity with every drive.

Amiga A1200  
only **£275**  
if purchased with  
a hard drive.  
Price includes fitting.  
A500/A1500  
hard drives  
also available.  
Interface is  
only **£99.99.**



### CLOCK CARTRIDGE

The clock cartridge will enable your Amiga to continually store the correct time and date in its own battery backed memory. Simply plugs onto the back of the Amiga and does NOT invalidate the warranty.



**NEW! ONLY £19.99**

### DELUXE FLOPPY DISC DRIVE

Top quality, silent, 'Cyclone Compatible' 3.5" drive. Features long reach cable, on/off switch and thru connector. **£54.99** Internal replacement drives A500/A500+ **£44.99** A600/A1200 **£44.99.** 3.5" discs Supervalve bulk packed or branded discs 3.5" DSDD discs.

QTY	Bulk	Branded
10	£4.25	£5.25
25	£10.99	£11.99
50	£19.99	£21.99
100	£36.99	£41.99
200	£68.99	£78.99
500	£167.99	£189.99



### PRINTERS

These superb CITIZEN printers have a two year guarantee and come complete with a printer cable, paper and printer drive (if available).

ABC mono

**£139.99**

ABC colour

**£154.99**

Tractor feed unit

for ABC printer

**£27.99**

Swift 200 colour

**£180.99**

Swift 240 colour

**£217.99**

Project 11

**£213.99**



**siren**

**No.1 for  
mail order**

**SALES HOT-LINE**

**FREEPHONE**

**0500 340548**

ENQUIRIES: **061 796 5279**

FAX: **061 796 3208**

# Excite your Amiga

**No.1  
for Amiga  
in Manchester**

Order **NOW** for immediate despatch.

**FREEPHONE**

**0500 340548**

(for credit card sales only)

**061 796 5279** for enquiries

or fax **061 796 3208**

**Open 9am to 6pm  
Monday to Friday.  
Saturday mornings  
10am to 12pm.**

Access, Visa & Switch accepted.

Send cheques

(made payable to Siren Software),

Postal Orders

or credit card details to :-

**Siren Software,  
178 Bury New Road,  
Whitefield, Manchester,  
M45 6AF England**

Personal callers welcome.

Please phone first to check  
availability of any item.

### Directions

From M62 junction 17, head  
towards Bury. We are 50 yards  
on the right after the third set of  
traffic lights.

All prices include VAT. postage  
and packing will be charged at  
£3.50 per order (U.K.), £7.50  
Europe and £12.50  
rest of the World.



## CD ROMS

WEIRD SCIENCE CLIP ART 1000's of images. £9.99.  
ASSASSIN GAMES The collection from 1-200. £17.99.  
AMOS PD LIBRARY Amos titles and source code. £17.99.  
AMINET 4 The latest titles from around the globe. £17.99.  
AMINET 5 Straight off the Internet. £17.99. \*\*  
TTTTST 4 Games, utils, animations, demos etc. £17.99.  
TTTTST 5 Loads more great public domain stuff! £17.99. \*\*  
AMIGA RAYTRACER 2 Imagine, Lightwave objects etc. £17.99.  
GOLD FISH DOUBLE CD Fred Fish disks 1-1000. £26.99.  
LOCK AND LOAD 1000 classic PD games. £17.99.  
PRO CLIPART GIFS Glamour, art, digitised, etc. £17.99.  
WEIRD SCIENCE FONT 18,000 fonts for PC. £9.99.  
SPECCY SENSATION 500+ classic Spectrum games. £17.99. \*\*  
17 BIT PHASE 4 All of 17 bits latest titles. £17.99.  
ADULT SENSATION Over 3000 AGA ladies. 18+ ONLY. £17.99. \*\*  
LIGHTROOM 3D Objects, Images, Sequences, etc. £36.95.  
\*\* Not released at time of advert production. Should be out now.

Postage and Packing on CD ROMS  
1 CD £1.00 2 CD's £1.50 3+ CD's £2.00

**SPECIAL LIMITED CD ROM OFFER**  
Use this coupon to get £1.00 off any CD ROM over £10. One coupon per CD.  
OFFER ENDS: 15-3-95.  
Orders must be received before this date.

## GAMES

G465 SUICIDE MACHINE Cute Operation Wolf type of game.  
G466 FISHY FISHY A game where only the fittest will survive.  
G468 SOLO ASSAULT Similar to Wing Commander.  
G469 HARRY HADDOCK Platform game with a fishy tail.  
G470 BIKIN CARDS Cardset for Klondike Deluxe II or III.  
G471 MEGA BLOCK 2 Colourful Tetris game.  
G472 MR SHARK SHOW RACING Demo Car racing. Not WB 1.3.  
G473 PEARS Smooth Doom clone. beta version. WB 3.0+ only.  
G474 TACON Clones of the great arcade games.  
G475 FLAMING ENGINES Excellent racing game.  
G476 G477 HYPER RACE Single or multiplayer racing game with exciting tracks and 180 frames of animation per car. 2 meg req.  
G478 ACCHILLEUS CARDS Cardset for Klondike Deluxe II or III.  
G479 HEROINE CARDS Cardset for Klondike Deluxe II & III.  
Fantasy armor featuring females.  
G480 BOOZE O METER The alcoholic olympics.  
G481 ATOMIC Shark arcade puzzle game.  
G482 CHARR V1 The best 1 to 8 player artillery game around.  
G484 TEMPORAL MISPLACEMENT Graphic text adventure set in the future and an imaginative time travelling theme.  
G443-G444 (2 DISKS) CHANEQUE Guide three characters through a series of Lemming like levels. Each character has two special abilities which you must use to help in the game. Not WB 1.3.  
G445 PACMAN 3D The virtual Pacman experience. Shareware.  
G446 PUZZLE PITS 2 3D Sokoban puzzle. Not WB 1.3.  
G447 XENEX 1 or 2 player Asteroids game with more variety.  
G448 PUCMAN Warlords Pacman clone. Made up of several levels and a larger than normal play area. Not WB 1.3.  
G451 GLADIATOR Dungeons & Dragons combat. Not WB 1.3.  
G452 DEERING DO Updated Mr Do clone. Better graphics, faster, etc.  
G453 SUPER BATTLE ZONE Clone of the 3D Battle Zone.  
G396 PENGU 2 Zip your Penguin buddy through the ice cave mazes squashing the badies. Great fun.  
G397-G398 (2 DISKS) INTERNATIONAL WRESTLING CHAMPIONSHIP Fantastic wrestling game for one or two players. Slams, punches, shoulder blocks, elbows, etc.  
G399 DYNAMITE WARRIORS 2 Incredible Dynaballs clone.  
G400-G405 (6 DISKS) THE ART OF BREAKING HEADS Fantastic beat-em-up with a choice of different characters with different abilities and special moves. One amazing game. WB 3.0+ only. At least 1 megabyte of extra fast RAM req.  
G406 COLONIAL CONQUEST II Interplanetary strategy game of evolution and survival. Not WB 1.3. Requires 2 MEG.  
G408 TEAM TETRIS New Tetris variation that is played by two players at the same time. Requires cooperation between players.  
G409 AMBASSADOR FRUIT MACHINE V2.0 Super fruit machine game with all the trimmings. WB 3.0+ only.  
G410-G411 (2 DISKS) MISSILES OVER XERION Missile Command. This is a complete overhaul of the original concept with new super cool graphics, power ups and amazing game play.  
G300 VCHES V3.1 One of the strongest computer Chess games around. Extra features than most commercial ones. Not WB 1.3.  
G419-G420 (2 DISKS) STARWOLDS Inspired by the game Thrust and the Star Wars film trilogy, this is a real hot looking shooting game. Recently reviewed (and highly cited) in AF. WB 3.0+ only.  
G421 TOP HAT WILLY Based on Jet Set Willy. Speccy classic.  
G322 AUTO MOBILES V1.11 Kid Marks style racing game.  
G371 SUPER OBLITERATION Amazing Pang clone. Top game.  
G361-G364 (4 DISKS) SPECTRUM GAMES 1-4 Games for the Spectrum emulator.  
G373-G378 (6 DISKS) SPECTRUM GAMES 6-10 More game for the Spectrum emulator.  
G263-G265 (3 DISKS) KLONDIKE DELUXE AGA Card game in 256 colours. Look out for the extra cardsets. WB 3.0+ only.  
G388 KLONDIKE DELUXE III - Latest version, but HD installation and 4 megs of memory only. WB 3.0+ only.  
G449 RANMA 1/2 CARDESET Manga style cardset for Klondike Deluxe III.  
G450 SAILOR MOON CARDESET Manga style cardset for Klondike Deluxe III.  
G366 ELLE McPHERSON CARDESET Cards for Klondike Deluxe.  
G412 SWIMSUIT CARDS Cardset for Klondike Deluxe II and III.  
G413 STAR WARS CARDS Cardset for Klondike Deluxe II & III.  
G414 EMERGE STRIKES BACK CARDS Cardset for Klondike Deluxe II and III.  
G415 RETURN OF THE JEDI CARDS Cardset for Klondike Deluxe II & III.  
G417 FAST CARDS CARDS Cardset for Klondike Deluxe II & III.  
G319 CINDY CRAWFORD CARDS Cardset for Klondike Deluxe.  
G369 BETTY PAGE CARDS Cardset for Klondike Deluxe.  
G392 MARILYN MONROE CARDS Cardset for Klondike Deluxe.  
G442 TMA Linear SD FI space puzzle shoot-em-up. Not WB 1.3.  
G387 MONOPOLY v1.1 Great computer conversion.  
G383 ROCKETY V2 1 or 2 player split screen Turn spin off. Utilities raytraced graphics for the ships. Wow. WB 3.0+ only.  
G455 POWER BATTLE Another game based on the classic Thrust game. 2 player split screen blasting across several scenarios.  
G456-G458 (3 DISKS) DEAD OF THE NIGHT Point and click graphic detective adventure game. Superb graphics.  
G459 SOLO ASSAULT Something like Wing Commander.  
G460 OBSTACLES Silly Putty type of platform game.  
G462 BAZZA & RUNT AGO Top shareware platform game. WB 3.0+ only.  
G463-G464 (2 DISKS) GINX Good puzzle game. WB 3.0+ only.  
G257 DELUXE PACMAN Probably the finest Pacman clone ever.  
G282 MEGABALL AGA Commercial quality action. WB 3.0+ only.  
G304 DELUXE GALAGA V2.5 Don't miss this addictive blaster.  
G325 ACT OF WAR v1.4 Of the Laser Squad genre. V. good.  
G387 MONOPOLY Computer board game. Good conversion.  
G331 SUPER LEAGUE MANAGER Football game.  
G344 SHEPHERD BD Brilliant game along the same lines as Populas - the God game. Not WB 1.3.  
G324 TASK FORCE Strategy wargame. Reviewed last issue.  
G269-G270 (2 DISKS) 18HOLE GOLF Arcade Golf game.  
G255 AMOS CRICKET Cricket game.  
G273-G274 (2 DISKS) STARBASS 18 Monkey Island style point and click graphic adventure game. Set in the future upon a space station.  
G342 SCRABBLE Good version of the board game.  
G339 DEFENDER Authentic arcade conversion.

**GROUND ZERO**  
PUBLIC DOMAIN, LICENSEWARE, CD ROMS

## DEMOS

D246 MUCH TO DO ABOUT NOTHING WB 3.0+ only.  
D247 IN A WORLD OF ASCII Clever number. WB 3.0+ only.  
D248 ROOTS - SANITY In the top tan at the TPA. WB 3.0+ only.  
D249 SYNDROME - by BALANCE WB 3.0+ only.  
D250 WE WILL SMASH U Good non-AGA demo. Not WB 1.3.  
D251 NUMB - by MOVEMENT WB 3.0+ only.  
D252 MAP THE DEMO - by 200 WB 3.0+ only.  
D253-D254 (2 DISKS) ROCKY MOVIE WB 3.0+ only.  
D255-D257 (3 DISKS) WHAMMER SLAMMER - by REBELS Hard drive installation only WB 3.0+ only.  
D258-D259 (2 DISKS) MOTION ORIGIN 2 Gorgeous looking production. WB 3.0+ only.  
D260 AIN'T - by MELON DEZIGN - Not strictly a demo, rather a coded cartoon animation. Quite funny. WB 3.0+ only.  
D261-D262 (2 DISKS) THE PREY Good music. WB 3.0+ only.  
D263 IMAGINE - by DREAM DEALERS Funky WB 3.0+ only.  
D264-D265 (2 DISKS) ROCKY PART 3 WB 3.0+ only.  
D266 TWISTED MIND WB 3.0+ only.  
M161-M162 (2 DISKS) MUSICAL SENSATION - by TRIAD Quality music and some added gk effects. WB 3.0+ only.  
D267 WIT PREMIUM - by FREEZERS Outstanding. WB 3.0+ only.  
D268 ART OF NOISE 64 MUSIC WB 3.0+ only.  
D269 ZEROS + ONES WB 3.0+ only.  
D270-D271 (2 DISKS) DOVE Entrant from the Trade Party 94. WB 3.0+ only.  
D272-D273 (2 DISKS) OXYGEN INDIGO WB 3.0+ only.  
D274-D275 (2 DISKS) SOUL KITCHEN - by SILENTS. A fine demo by Silents. Doesn't work with fast ram installed. WB 3.0+ only.  
D276-D279 (4 DISKS) VISION IN BLUR - POLKA BROTHERS Fantastic non AGA demo, for all Amiga's.

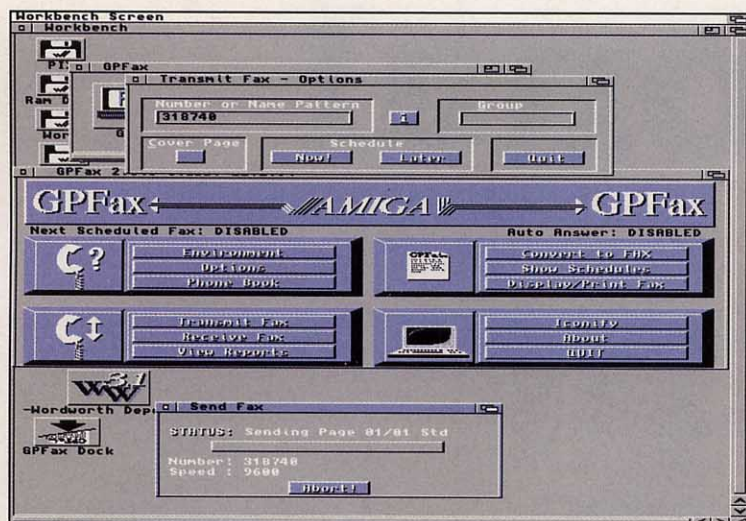
## MOST OF THE ABOVE DEMOS ARE FROM THE TRADE PARTY 4, HELD RECENTLY.

D232 BAD ZOOM Rubbish visuals but funky music track. I like it!  
D233 TRACKERS 242 Great follow up. If you only have 2 meg, disable all external drive (etc. HD's). WB 3.0+ only.  
D234 VITAL From up and coming coders. Mystic. WB 3.0+ only.  
D235-D237 (3 DISKS) MAXIMUM OVERDRIVE II WB 3.0+ only.  
D239 BALLABORINTRO rave demo. WB 3.0+ only.  
D240-D241 (2 DISKS) ARTIFEX WB 3.0+ only.  
D242-D243 (2 DISKS) INFECT WB 3.0+ only.  
M156 SWAMP THING Mix of the chart single. WB 3.0+ only.  
D217 POLKA BROTHERS 'GEVALIA'  
D219-D220 (2 DISKS) ARTIFICIAL PARADISE WB 3.0+ only.  
D221-D222 (2 DISKS) ARTIFEX WB 3.0+ only.  
D223-D224 (2 DISKS) SWITCHBACK From Rebels. Some amazing routines, especially the roller coaster. WB 3.0+ only.  
D226 GIMME ALCOHOL WB 3.0+ only.  
D227 JAMMIN Good use of the AGA in producing colourful pattern effects. WB 3.0+ only.  
D188-D189 (2 DISKS) BIG TIME SENSUALITY WB 3.0+ only.  
D174-D175 (2 DISKS) NINE FINGERS From Spaceballs.  
M159 VENTILLATOR Rave till it drop. WB 3.0+ only.  
M160 MUSIC M161 M162 M163 M164 M165 M166 M167 M168 M169 M170 M171 M172 M173 M174 M175 M176 M177 M178 M179 M180 M181 M182 M183 M184 M185 M186 M187 M188 M189 M190 M191 M192 M193 M194 M195 M196 M197 M198 M199 M200 M201 M202 M203 M204 M205 M206 M207 M208 M209 M210 M211 M212 M213 M214 M215 M216 M217 M218 M219 M220 M221 M222 M223 M224 M225 M226 M227 M228 M229 M230 M231 M232 M233 M234 M235 M236 M237 M238 M239 M240 M241 M242 M243 M244 M245 M246 M247 M248 M249 M250 M251 M252 M253 M254 M255 M256 M257 M258 M259 M260 M261 M262 M263 M264 M265 M266 M267 M268 M269 M270 M271 M272 M273 M274 M275 M276 M277 M278 M279 M280 M281 M282 M283 M284 M285 M286 M287 M288 M289 M290 M291 M292 M293 M294 M295 M296 M297 M298 M299 M300 M301 M302 M303 M304 M305 M306 M307 M308 M309 M310 M311 M312 M313 M314 M315 M316 M317 M318 M319 M320 M321 M322 M323 M324 M325 M326 M327 M328 M329 M330 M331 M332 M333 M334 M335 M336 M337 M338 M339 M340 M341 M342 M343 M344 M345 M346 M347 M348 M349 M350 M351 M352 M353 M354 M355 M356 M357 M358 M359 M360 M361 M362 M363 M364 M365 M366 M367 M368 M369 M370 M371 M372 M373 M374 M375 M376 M377 M378 M379 M380 M381 M382 M383 M384 M385 M386 M387 M388 M389 M390 M391 M392 M393 M394 M395 M396 M397 M398 M399 M400 M401 M402 M403 M404 M405 M406 M407 M408 M409 M410 M411 M412 M413 M414 M415 M416 M417 M418 M419 M420 M421 M422 M423 M424 M425 M426 M427 M428 M429 M430 M431 M432 M433 M434 M435 M436 M437 M438 M439 M440 M441 M442 M443 M444 M445 M446 M447 M448 M449 M450 M451 M452 M453 M454 M455 M456 M457 M458 M459 M460 M461 M462 M463 M464 M465 M466 M467 M468 M469 M470 M471 M472 M473 M474 M475 M476 M477 M478 M479 M480 M481 M482 M483 M484 M485 M486 M487 M488 M489 M490 M491 M492 M493 M494 M495 M496 M497 M498 M499 M500 M501 M502 M503 M504 M505 M506 M507 M508 M509 M510 M511 M512 M513 M514 M515 M516 M517 M518 M519 M520 M521 M522 M523 M524 M525 M526 M527 M528 M529 M530 M531 M532 M533 M534 M535 M536 M537 M538 M539 M540 M541 M542 M543 M544 M545 M546 M547 M548 M549 M550 M551 M552 M553 M554 M555 M556 M557 M558 M559 M560 M561 M562 M563 M564 M565 M566 M567 M568 M569 M570 M571 M572 M573 M574 M575 M576 M577 M578 M579 M580 M581 M582 M583 M584 M585 M586 M587 M588 M589 M590 M591 M592 M593 M594 M595 M596 M597 M598 M599 M600 M601 M602 M603 M604 M605 M606 M607 M608 M609 M610 M611 M612 M613 M614 M615 M616 M617 M618 M619 M620 M621 M622 M623 M624 M625 M626 M627 M628 M629 M630 M631 M632 M633 M634 M635 M636 M637 M638 M639 M640 M641 M642 M643 M644 M645 M646 M647 M648 M649 M650 M651 M652 M653 M654 M655 M656 M657 M658 M659 M660 M661 M662 M663 M664 M665 M666 M667 M668 M669 M670 M671 M672 M673 M674 M675 M676 M677 M678 M679 M680 M681 M682 M683 M684 M685 M686 M687 M688 M689 M690 M691 M692 M693 M694 M695 M696 M697 M698 M699 M700 M701 M702 M703 M704 M705 M706 M707 M708 M709 M710 M711 M712 M713 M714 M715 M716 M717 M718 M719 M720 M721 M722 M723 M724 M725 M726 M727 M728 M729 M730 M731 M732 M733 M734 M735 M736 M737 M738 M739 M740 M741 M742 M743 M744 M745 M746 M747 M748 M749 M750 M751 M752 M753 M754 M755 M756 M757 M758 M759 M760 M761 M762 M763 M764 M765 M766 M767 M768 M769 M770 M771 M772 M773 M774 M775 M776 M777 M778 M779 M780 M781 M782 M783 M784 M785 M786 M787 M788 M789 M790 M791 M792 M793 M794 M795 M796 M797 M798 M799 M800 M801 M802 M803 M804 M805 M806 M807 M808 M809 M810 M811 M812 M813 M814 M815 M816 M817 M818 M819 M820 M821 M822 M823 M824 M825 M826 M827 M828 M829 M830 M831 M832 M833 M834 M835 M836 M837 M838 M839 M840 M841 M842 M843 M844 M845 M846 M847 M848 M849 M850 M851 M852 M853 M854 M855 M856 M857 M858 M859 M860 M861 M862 M863 M864 M865 M866 M867 M868 M869 M870 M871 M872 M873 M874 M875 M876 M877 M878 M879 M880 M881 M882 M883 M884 M885 M886 M887 M888 M889 M890 M891 M892 M893 M894 M895 M896 M897 M898 M899 M900 M901 M902 M903 M904 M905 M906 M907 M908 M909 M910 M911 M912 M913 M914 M915 M916 M917 M918 M919 M920 M921 M922 M923 M924 M925 M926 M927 M928 M929 M930 M931 M932 M933 M934 M935 M936 M937 M938 M939 M940 M941 M942 M943 M944 M945 M946 M947 M948 M949 M950 M951 M952 M953 M954 M955 M956 M957 M958 M959 M960 M961 M962 M963 M964 M965 M966 M967 M968 M969 M970 M971 M972 M973 M974 M975 M976 M977 M978 M979 M980 M981 M982 M983 M984 M985 M986 M987 M988 M989 M990 M991 M992 M993 M994 M995 M996 M997 M998 M999

## SLIDESHOWS

S108-S109 (2 DISKS) FIT CHIX 1 Glamour. WB 3.0+ only.  
S110-S111 (2 DISKS) FIT CHIX 2 Glamour. WB 3.0+ only.  
S112-S113 (2 DISKS) FIT CHIX 3 Glamour. WB 3.0+ only.  
S114 BODY SHOP 3 Glamour slideshow. WB 3.0+ only.  
S115-S116 (2 DISKS) BODY SHOP 4 Glamour. WB 3.0+ only.  
S117-S118 (2 DISKS) BODY SHOP 5 Glamour. WB 3.0+ only.  
S119-S120 (2 DISKS) BODY SHOP 6 Glamour. WB 3.0+ only.  
S121-S122 (2 DISKS) CLAUDIA SCHIFFER 4 Glamour slideshow. WB 3.0+ only.  
S123-S124 (2 DISKS) CLAUDIA SCHIFFER 5 Glamour slideshow. WB 3.0+ only.  
S125-S126 (2 DISKS) CLAUDIA SCHIFFER 6 Glamour slideshow. WB 3.0+ only.  
S127-S128 (2 DISKS) CLAUDIA SCHIFFER 7 Glamour slideshow. WB 3.0+ only.  
S129-S130 (2 DISKS) CLAUDIA SCHIFFER 8 Glamour slideshow. WB 3.0+ only.  
S131-S132 (2 DISKS) CLAUDIA SCHIFFER 9 Glamour slideshow. WB 3.0+ only.  
S133-S134 (2 DISKS) CLAUDIA SCHIFFER 10 Glamour slideshow. WB 3.0+ only.  
S135-S136 (2 DISKS) CLAUDIA SCHIFFER 11 Glamour slideshow. WB 3.0+ only.  
S137-S138 (2 DISKS) CLAUDIA SCHIFFER 12 Glamour slideshow. WB 3.0+ only.  
S139-S140 (2 DISKS) CLAUDIA SCHIFFER 13 Glamour slideshow. WB 3.0+ only.  
S141-S142 (2 DISKS) CLAUDIA SCHIFFER 14 Glamour slideshow. WB 3.0+ only.  
S143-S144 (2 DISKS) CLAUDIA SCHIFFER 15 Glamour slideshow. WB 3.0+ only.  
S145-S146 (2 DISKS) CLAUDIA SCHIFFER 16 Glamour slideshow. WB 3.0+ only.  
S147-S148 (2 DISKS) CLAUDIA SCHIFFER 17 Glamour slideshow. WB 3.0+ only.  
S149-S150 (2 DISKS) CLAUDIA SCHIFFER 18 Glamour slideshow. WB 3.0+ only.  
S151-S152 (2 DISKS) CLAUDIA SCHIFFER 19 Glamour slideshow. WB 3.0+ only.  
S153-S154 (2 DISKS) CLAUDIA SCHIFFER 20 Glamour slideshow. WB 3.0+ only.  
S155-S156 (2 DISKS) CLAUDIA SCHIFFER 21 Glamour slideshow. WB 3.0+ only.  
S157-S158 (2 DISKS) CLAUDIA SCHIFFER 22 Glamour slideshow. WB 3.0+ only.  
S159-S160 (2 DISKS) CLAUDIA SCHIFFER 23 Glamour slideshow. WB 3.0+ only.  
S161-S162 (2 DISKS) CLAUDIA SCHIFFER 24 Glamour slideshow. WB 3.0+ only.  
S163-S164 (2 DISKS) CLAUDIA SCHIFFER 25 Glamour slideshow. WB 3.0+ only.  
S165-S166 (2 DISKS) CLAUDIA SCHIFFER 26 Glamour slideshow. WB 3.0+ only.  
S167-S168 (2 DISKS) CLAUDIA SCHIFFER 27 Glamour slideshow. WB 3.0+ only.  
S169-S170 (2 DISKS) CLAUDIA SCHIFFER 28 Glamour slideshow. WB 3.0+ only.  
S171-S172 (2 DISKS) CLAUDIA SCHIFFER 29 Glamour slideshow. WB 3.0+ only.  
S173-S174 (2 DISKS) CLAUDIA SCHIFFER 30 Glamour slideshow. WB 3.0+ only.  
S175-S176 (2 DISKS) CLAUDIA SCHIFFER 31 Glamour slideshow. WB 3.0+ only.  
S177-S178 (2 DISKS) CLAUDIA SCHIFFER 32 Glamour slideshow. WB 3.0+ only.  
S179-S180 (2 DISKS) CLAUDIA SCHIFFER 33 Glamour slideshow. WB 3.0+ only.  
S181-S182 (2 DISKS) CLAUDIA SCHIFFER 34 Glamour slideshow. WB 3.0+ only.  
S183-S184 (2 DISKS) CLAUDIA SCHIFFER 35 Glamour slideshow. WB 3.0+ only.  
S185-S186 (2 DISKS) CLAUDIA SCHIFFER 36 Glamour slideshow. WB 3.0+ only.  
S187-S188 (2 DISKS) CLAUDIA SCHIFFER 37 Glamour slideshow. WB 3.0+ only.  
S189-S190 (2 DISKS) CLAUDIA SCHIFFER 38 Glamour slideshow. WB 3.0+ only.  
S191-S192 (2 DISKS) CLAUDIA SCHIFFER 39 Glamour slideshow. WB 3.0+ only.  
S193-S194 (2 DISKS) CLAUDIA SCHIFFER 40 Glamour slideshow. WB 3.0+ only.  
S195-S196 (2 DISKS) CLAUDIA SCHIFFER 41 Glamour slideshow. WB 3.0+ only.  
S197-S198 (2 DISKS) CLAUDIA SCHIFFER 42 Glamour slideshow. WB 3.0+ only.  
S199-S200 (2 DISKS) CLAUDIA SCHIFFER 43 Glamour slideshow. WB 3.0+ only.  
S201-S202 (2 DISKS) CLAUDIA SCHIFFER 44 Glamour slideshow. WB 3.0+ only.  
S203-S204 (2 DISKS) CLAUDIA SCHIFFER 45 Glamour slideshow. WB 3.0+ only.  
S205-S206 (2 DISKS) CLAUDIA SCHIFFER 46 Glamour slideshow. WB 3.0+ only.  
S207-S208 (2 DISKS) CLAUDIA SCHIFFER 47 Glamour slideshow. WB 3.0+ only.  
S209-S210 (2 DISKS) CLAUDIA SCHIFFER 48 Glamour slideshow. WB 3.0+ only.  
S211-S212 (2 DISKS) CLAUDIA SCHIFFER 49 Glamour slideshow. WB 3.0+ only.  
S213-S214 (2 DISKS) CLAUDIA SCHIFFER 50 Glamour slideshow. WB 3.0+ only.  
S215-S216 (2 DISKS) CLAUDIA SCHIFFER 51 Glamour slideshow. WB 3.0+ only.  
S217-S218 (2 DISKS) CLAUDIA SCHIFFER 52 Glamour slideshow. WB 3.0+ only.  
S219-S220 (2 DISKS) CLAUDIA SCHIFFER 53 Glamour slideshow. WB 3.0+ only.  
S221-S222 (2 DISKS) CLAUDIA SCHIFFER 54 Glamour slideshow. WB 3.0+ only.  
S223-S224 (2 DISKS) CLAUDIA SCHIFFER 55 Glamour slideshow. WB 3.0+ only.  
S225-S226 (2 DISKS) CLAUDIA SCHIFFER 56 Glamour slideshow. WB 3.0+ only.  
S227-S228 (2 DISKS) CLAUDIA SCHIFFER 57 Glamour slideshow. WB 3.0+ only.  
S229-S230 (2 DISKS) CLAUDIA SCHIFFER 58 Glamour slideshow. WB 3.0+ only.  
S231-S232 (2 DISKS) CLAUDIA SCHIFFER 59 Glamour slideshow. WB 3.0+ only.  
S233-S234 (2 DISKS) CLAUDIA SCHIFFER 60 Glamour slideshow. WB 3.0+ only.  
S235-S236 (2 DISKS) CLAUDIA SCHIFFER 61 Glamour slideshow. WB 3.0+ only.  
S237-S238 (2 DISKS) CLAUDIA SCHIFFER 62 Glamour slideshow. WB 3.0+ only.  
S239-S240 (2 DISKS) CLAUDIA SCHIFFER 63 Glamour slideshow. WB 3.0+ only.  
S241-S242 (2 DISKS) CLAUDIA SCHIFFER 64 Glamour slideshow. WB 3.0+ only.  
S243-S244 (2 DISKS) CLAUDIA SCHIFFER 65 Glamour slideshow. WB 3.0+ only.  
S245-S246 (2 DISKS) CLAUDIA SCHIFFER 66 Glamour slideshow. WB 3.0+ only.  
S247-S248 (2 DISKS) CLAUDIA SCHIFFER 67 Glamour slideshow. WB 3.0+ only.  
S249-S250 (2 DISKS) CLAUDIA SCHIFFER 68 Glamour slideshow. WB 3.0+ only.  
S251-S252 (2 DISKS) CLAUDIA SCHIFFER 69 Glamour slideshow. WB 3.0+ only.  
S253-S254 (2 DISKS) CLAUDIA SCHIFFER 70 Glamour slideshow. WB 3.0+ only.  
S255-S256 (2 DISKS) CLAUDIA SCHIFFER 71 Glamour slideshow. WB 3.0+ only.  
S257-S258 (2 DISKS) CLAUDIA SCHIFFER 72 Glamour slideshow. WB 3.0+ only.  
S259-S260 (2 DISKS) CLAUDIA SCHIFFER 73 Glamour slideshow. WB 3.0+ only.  
S261-S262 (2 DISKS) CLAUDIA SCHIFFER 74 Glamour slideshow. WB 3.0+ only.  
S263-S264 (2 DISKS) CLAUDIA SCHIFFER 75 Glamour slideshow. WB 3.0+ only.  
S265-S266 (2 DISKS) CLAUDIA SCHIFFER 76 Glamour slideshow. WB 3.0+ only.  
S267-S268 (2 DISKS) CLAUDIA SCHIFFER 77 Glamour slideshow. WB 3.0+ only.  
S269-S270 (2 DISKS) CLAUDIA SCHIFFER 78 Glamour slideshow. WB 3.0+ only.  
S271-S272 (2 DISKS) CLAUDIA SCHIFFER 79 Glamour slideshow. WB 3.0+ only.  
S273-S274 (2 DISKS) CLAUDIA SCHIFFER 80 Glamour slideshow. WB 3.0+ only.  
S275-S276 (2 DISKS) CLAUDIA SCHIFFER 81 Glamour slideshow. WB 3.0+ only.  
S277-S278 (2 DISKS) CLAUDIA SCHIFFER 82 Glamour slideshow. WB 3.0+ only.  
S279-S280 (2 DISKS) CLAUDIA SCHIFFER 83 Glamour slideshow. WB 3.0+ only.  
S281-S282 (2 DISKS) CLAUDIA SCHIFFER 84 Glamour slideshow. WB 3.0+ only.  
S283-S284 (2 DISKS) CLAUDIA SCHIFFER 85 Glamour slideshow. WB 3.0+ only.  
S285-S286 (2 DISKS) CLAUDIA SCHIFFER 86 Glamour slideshow. WB 3.0+ only.  
S287-S288 (2 DISKS) CLAUDIA SCHIFFER 87 Glamour slideshow. WB 3.0+ only.  
S289-S290 (2 DISKS) CLAUDIA SCHIFFER 88 Glamour slideshow. WB 3.0+ only.  
S291-S292 (2 DISKS) CLAUDIA SCHIFFER 89 Glamour slideshow. WB 3.0+ only.  
S293-S294 (2 DISKS) CLAUDIA SCHIFFER 90 Glamour slideshow. WB 3.0+ only.  
S295-S296 (2 DISKS) CLAUDIA SCHIFFER 91 Glamour slideshow. WB 3.0+ only.  
S297-S298 (2 DISKS) CLAUDIA SCHIFFER 92 Glamour slideshow. WB 3.0+ only.  
S299-S300 (2 DISKS) CLAUDIA SCHIFFER 93 Glamour slideshow. WB 3.0+ only.  
S301-S302 (2 DISKS) CLAUDIA SCHIFFER 94 Glamour slideshow. WB 3.0+ only.  
S303-S304 (2 DISKS) CLAUDIA SCHIFFER 95 Glamour slideshow. WB 3.0+ only.  
S305-S306 (2 DISKS) CLAUDIA SCHIFFER 96 Glamour slideshow. WB 3.0+ only.  
S307-S308 (2 DISKS) CLAUDIA SCHIFFER 97 Glamour slideshow. WB 3.0+ only.  
S309-S310 (2 DISKS) CLAUDIA SCHIFFER 98 Glamour slideshow. WB 3.0+ only.  
S311-S312 (2 DISKS) CLAUDIA SCHIFFER 99 Glamour slideshow. WB 3.0+ only.  
S313-S314 (2 DISKS) CLAUDIA SCHIFFER 100 Glamour slideshow. WB 3.0+ only.  
S315-S316 (2 DISKS) CLAUDIA SCHIFFER 101 Glamour slideshow. WB 3.0+ only.  
S317-S318 (2 DISKS) CLAUDIA SCHIFFER 102 Glamour slideshow. WB 3.0+ only.  
S319-S320 (2 DISKS) CLAUDIA SCHIFFER 103 Glamour slideshow. WB 3.0+ only.  
S321-S322 (2 DISKS) CLAUDIA SCHIFFER 104 Glamour slideshow. WB 3.0+ only.  
S323-S324 (2 DISKS) CLAUDIA SCHIFFER 105 Glamour slideshow. WB 3.0+ only.  
S325-S326 (2 DISKS) CLAUDIA SCHIFFER 106 Glamour slideshow. WB 3.0+ only.  
S327-S328 (2 DISKS) CLAUDIA SCHIFFER 107 Glamour slideshow. WB 3.0+ only.  
S329-S330 (2 DISKS) CLAUDIA SCHIFFER 108 Glamour slideshow. WB 3.0+ only.  
S331-S332 (2 DISKS) CLAUDIA SCHIFFER 109 Glamour slideshow. WB 3.0+ only.  
S333-S334 (2 DISKS) CLAUDIA SCHIFFER 110 Glamour slideshow. WB 3.0+ only.  
S335-S336 (2 DISKS) CLAUDIA SCHIFFER 111 Glamour slideshow. WB 3.0+ only.  
S337-S338 (2 DISKS) CLAUDIA SCHIFFER 112 Glamour slideshow. WB 3.0+ only.  
S339-S340 (2 DISKS) CLAUDIA SCHIFFER 113 Glamour slideshow. WB 3.0+ only.  
S341-S342 (2 DISKS) CLAUDIA SCHIFFER 114 Glamour slideshow. WB 3.0+ only.  
S343-S344 (2 DISKS) CLAUDIA SCHIFFER 115 Glamour slideshow. WB 3.0+ only.  
S345-S346 (2 DISKS) CLAUDIA SCHIFFER 116 Glamour slideshow. WB 3.0+ only.  
S347-S348 (2 DISKS) CLAUDIA SCHIFFER 117 Glamour slideshow. WB 3.0+ only.  
S349-S350 (2 DISKS) CLAUDIA SCHIFFER 118 Glamour slideshow. WB 3.0+ only.  
S351-S352 (2 DISKS) CLAUDIA SCHIFFER 119 Glamour slideshow. WB 3.0+ only.  
S353-S354 (2 DISKS) CLAUDIA SCHIFFER 120 Glamour slideshow. WB 3.0+ only.  
S355-S356 (2 DISKS) CLAUDIA SCHIFFER 121 Glamour slideshow. WB 3.0+ only.  
S357-S358 (2 DISKS) CLAUDIA SCHIFFER 122 Glamour slideshow. WB 3.0+ only.  
S359-S360 (2 DISKS) CLAUDIA SCHIFFER 123 Glamour slideshow. WB 3.0+ only.  
S361-S362 (2 DISKS) CLAUDIA SCHIFFER 124 Glamour slideshow. WB 3.0+ only.  
S363-S364 (2 DISKS) CLAUDIA SCHIFFER 125 Glamour slideshow. WB 3.0+ only.  
S365-S366 (2 DISKS) CLAUDIA SCHIFFER 126 Glamour slideshow. WB 3.0+ only.  
S367-S368 (2 DISKS) CLAUDIA SCHIFFER 127 Glamour slideshow. WB 3.0+ only.  
S369-S370 (2 DISKS) CLAUDIA SCHIFFER 128 Glamour slideshow. WB 3.0+ only.  
S371-S372 (2 DISKS) CLAUDIA SCHIFFER 129 Glamour slideshow. WB 3.0+ only.  
S373-S374 (2 DISKS) CLAUDIA SCHIFFER 130 Glamour slideshow. WB 3.0+ only.  
S375-S376 (2 DISKS) CLAUDIA SCHIFFER 131 Glamour slideshow. WB 3.0+ only.  
S377-S378 (2 DISKS) CLAUDIA SCHIFFER 132 Glamour slideshow. WB 3.0+ only.  
S379-S380 (2 DISKS) CLAUDIA SCHIFFER 133 Glamour slideshow. WB 3.0+ only.  
S381-S382 (2 DISKS) CLAUDIA SCHIFFER





The TrapFax interface is fully up to the Workbench 2 standard and is very easy to use. You can send a fax to several recipients by simply clicking on them.



TrapFax is much better at processing images for faxing, although the quality is still nowhere near as good as with a decent printer.

It's pretty obvious that quite a few corners have been cut in this modem to keep the cost down. It works, and works fairly well, but I'm not overly happy with the design of the case and the speaker. The former one of these is, to some degree, a question of personal taste, but the speaker problem has cost this a good few per cent. It's a cheap modem and it shows.

### SpeedCom+ 28800

"Some fairly obvious cost-cutting exercises have kept the cost down, but it still performs well enough."

**Price:** £199.99

**Supplier:** Siren Software

**Contact:** 0161 724 7576

**Verdict:** 70%

### SpeedCom+ 14400

This modem is more or less exactly the same as the SpeedCom+ 28800, except that it is only capable of making V.32bis connections (i.e. 14,400 bits per second). Apart from this, the design and performance of the modem is pretty much identical, with the same good tolerance of dodgy phone lines and transatlantic calls.

It's a lot cheaper, but, once again, you should think carefully before buying this, as you will probably save a lot on phone bills by investing in a faster modem.

### SpeedCom+ 14400

"A competent modem at a good price. The design leaves something to be desired."

**Price:** £199.99

**Supplier:** Siren Software

**Contact:** (0500 340548)

**Verdict:** 70%

## FAX programs

All of the modems included in this Supertest are capable of sending faxes. This

isn't really that surprising; a fax machine is basically a scanner with a modem attached. As you already have a computer (which is easily capable of generating a document in a form suitable for faxing), all you need is the modem and some software.

There are several PD fax programs available, but if you want a program which will allow you to fax properly and easily, you will need a commercial program. There are two contenders - GPFax and TrapFax.

### GPFax

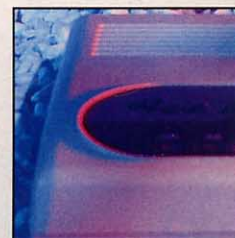
This was the first commercial fax program for the Amiga. It's written by the prominent Australian Amiga programmer, Greg Perry. Versions of the program for modems, which support both Class 1 and Class 2 modems, are supported on the same disk, so this program should work with more or less any fax modem on the market. A special version for the Supra V.32bis fax modem used to be available, but this has also now been incorporated into the main program.

It's very easy to install and works in a similar way to most fax programs by setting itself up as a printer driver. So, when you want to send a fax, you kick off your word processor or DTP program, create your fax and then print the document. The various resolutions available for faxes are available as print densities.

GPFax then captures the file as it is printed and jumps to the front. You can then enter the number to fax to, or pick one from the directory. As you would expect, you can enter your own numbers and can even set it to fax a group of numbers at a later time. This would be extremely useful if you want to send a long fax in off-peak hours, or want to send a fax in the depths of the night.

If you want to use a text processor, such as CED or GoldEd, you can insert formatting commands in a normal ASCII text file. GPFax will interpret these commands when you fax the document. For instance, \B turns bold text on and \b turns it off again. The results for this can be somewhat

"A fax machine is **basically** a scanner with a modem attached."

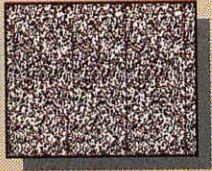


Interdial M5134.





**NEW!**  
**V. 6.1**  
 Animation, Stereograms, Virtual Memory,  
 Transparency Effects, Alpha Channel, RTG,  
 Storyboard, Fast Machine Language Code,  
 24-Bit Printing, New DeskJet Drivers, DataTypes...



*Creates Stereograms!  
 (SIRDS and Pattern,  
 as in "Magic Eye")*

# Personal

## Paint™

Amiga® Paint, Image Processing,  
 Animation & 24-Bit Printing Software

**P**ERSONAL PAINT IS A powerful and intuitive paint, image processing, animation and 24-bit printing package. Employ stunning effects like transparencies, emboss, watercolors and stereograms (as in "Magic Eye"), while virtual memory frees precious Chip RAM by using other storage resources! Plus: full support RTG display boards, different file formats (IFF, GIF, PCX, encrypted, C source code, Amiga DataTypes), nine brushes, two independent working environments animation storyboard, Bézier curves, autscroll painting, professional color reduction, superior text editor, color fonts, PostScript output (b/w, color and separations), screen grabber...

The large picture shows, among other things, practical applications of Palette Merge and Color Average Resize (used to scale and combine all items), Color Quantization (applied to 24-bit images), Gradient Fill and Alpha Channel (used to create the shadow) and various other image processing effects.



### From the International Press

Animation is fast and effective, particularly because of the innovative storyboard feature.

Virtual memory is fantastic if you don't have enough real memory in your machine.

The image processing tools are bountiful and versatile as always, and the 24 bit printing is again excellent. It certainly pushes printers to their limits, and the results may very well surprise you.

PPaint is unbeatable at handling the palette and in remapping quality.

Font handling on PPaint has always been fantastic. I like the way that you can type directly over the screen and still use the cursor and delete keys for editing, even if you've typed a whole screen full of text.

The alpha channel is simple to use and yet a very powerful feature normally found on expensive 24 bit programs.

Rating: 90%

Gary Fenton, Amiga User International, Great Britain

What do BBS users, C programmers, Bridgeboard users and Amiga artists have in common? Give them all a copy of Personal Paint and you'll find out.

Fred Hurteau, Amiga World, USA

That installer happens to be one of the friendliest and most intelligent I've had the pleasure to use... PostScript output is finally supported by a paint program!

Let's see \*\*\* do that!

Rating: 92%

Shirley Storey III, Amiga Down Under, Australia/NZ

An excellent piece of software: stable, user friendly, fast. It is packed with unique features that make it very precious in many difficult situations: color quantization, palette merge, image processing, PostScript color separation, professional Preferences printing and many more.

Highly recommended, both to novice users, who will take advantage of the excellent documentation and the intuitive user interface, and to experienced professionals of different fields such as graphics, DTP, programming and multimedia.

Editorial, Amiga Magazine, Italy

As a professor of plastic arts and counselor at the film institute, I'm always in search of tools which succeed in combining ease of use with a range of original features. My most recent discovery has been Personal Paint.

This time, I don't need a dictionary to read the manual. It is direct, clear and concise. It is detailed, yet simple and perfectly accessible to the beginner.

Christian Hamoneau, AmigaNews, France

... If you cannot believe all this to be true, read our review.

Rating: Editor's Choice

RRP £54.95

**SPECIAL OFFER:**

Personal Paint plus Personal  
 Fonts Maker V2.0 £59.95

OFFICIAL UK DISTRIBUTOR:

Ramiga International Ltd

Telephone 0690 770304

Fax 0690 770266

Stablau 'Rin

Pentrefoelas, Chwyd LL24 0HT



C l o a n  
 t o P e r  
 s o n a l  
 P a i n t  
 I m a g e  
 P r o c e  
 s s i n g



Animation Features: Storyboard,  
 Superior Compression, Multiple  
 Palettes, Frame-by-Frame Timing...





## Final words of wisdom

A wise woman (Judith Sterne) once said: "Experience - a comb life gives you after you lose your hair". Buying a modem is rather like that - you never know quite what you are going to get until you've already forked out the cash.

Hopefully, I've begun to give you a parting with this Supertest, but there are several things that you can do to ensure that you aren't suffering from computing dandruff.

The easiest and most obvious thing is to work out how much you can afford. It makes sense to buy the best and fastest modem that you can afford, as you will eventually save what you spend in phone bills.

Buying a cheap V.22bis modem may save you cash to begin with, but your phone bills will be larger once you start getting into some serious modem use.

Secondly, you should think about what you are planning to use the modem for. If you are planning only light domestic use, then you would be best off with one of the cheaper modems, such as the Frontier XL or the Sportster 288. If you are planning some serious use, or are looking at a

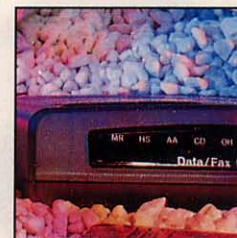
modem for use on a BBS, then you should get hold of a more heavy-duty model, such as the US Robotics Courier, or the Supra.

Of the modems we reviewed, the ones which really stood out from the crowd were the Sportster 288, the Courier V.34 and the Frontier XL. All of these performed extremely well and any of them would be a great choice for the Amiga Comms enthusiast.

Which one you choose depends very much on exactly what you are looking for and how you plan to use it, but one of these three should serve your needs admirably. There is certainly no shortage of modems to choose from. We've only scratched the surface with this Supertest as there are many hundreds of different models available.

Despite this, picking a modem is easier than picking other peripherals. With modems, the various standards ensure that it is relatively easy to work out what different models are capable of doing, so you can be pretty sure that you know what you are buying. So, what are you waiting for?

There's a whole new world out there just waiting for your call...



SpeedCom+ 28800.

35 unpredictable, so I recommend the use of a word processor.

As this program works as a printer driver, you are not limited to sending text. In fact, you can send any document which can be printed, so you can easily incorporate graphics, multiple fonts and the like. You should remember that fax machines are not really designed to be used for transmitting images, so the results can look rather poor. Greyscale images can be sent, but it's usually best to stick to line art where possible.

Receiving faxes is also possible. This is achieved through leaving a program running all the time which keeps an eye on the fax modem and receives the fax. This received fax is then saved out as a (big) IFF file, so you can load into a program such as DPaint or Personal Paint and read it or print it from there.

GPFax is easy to use, but I found the interface a little clumsy. There are no pull-down menus and the whole thing reminds me of programs designed to work with Workbench 1.3. In these days of Workbench 3.1, I don't really find this acceptable.

### GPFax

"It works very well, although the interface is non standard and slightly clumsy."

**Price:** £49.99

**Supplier:** First Computer Centre

**Contact:** 0113 231 9444

**Verdict: 75%**

### TrapFax

TrapFax is written by TrapDoor Developments, the people behind the excellent TrapDoor shareware E-mail software. The first thing you should note is that it will only work with Class 2 fax modems. Although all of the modems in this Supertest are Class 2 compatible, many older modems are Class 1 only, so they will

not work with TrapFax. For instance, the US Robotics modems in this Supertest are Class 1 only, so they won't work with this software.

TrapFax works in a similar way to GPFax in that it installs a pseudo-printer driver, so you can send faxes from any program which supports Workbench printer drivers. The installation process is pretty simple and does not require much fiddling. If you want to receive faxes, the installation routine drops a program into your WBStartup folder which deals with this. This does not take much memory, although receiving a fax will slow things down as it involves quite a lot of shuffling data around. You can either view the received fax from within one of the TrapFax programs or save them out as IFF files for use in another program.

Sending a fax is a simple process. Check that the right printer driver is selected, print the document, select the number to fax it to and you're off. A small window shows you what is going on, so you can check that the fax is being sent correctly. We tested this program with several of the modems in this Supertest, and it performed very well with all of them.

As you would expect, TrapFax allows you to set up a directory of frequently used numbers, and you can send a fax to several recipients by simply clicking on them in this directory. Faxes can be queued up for sending later and the program will automatically re-try a few minutes later if the remote fax machine is busy, or the fax fails to be received properly.

### TrapFax

"An excellent program which is very easy to use, as long as your modem supports the Class 2 commands." ■

**Price:** £54.95 incl. p&p

**Supplier:** Blittersoft

**Contact:** 01908 220196

**Verdict: 80%**

"it makes sense to buy the **best** and fastest modem that you can afford, as you will eventually save what you spend in phone bills."





# Squirrel

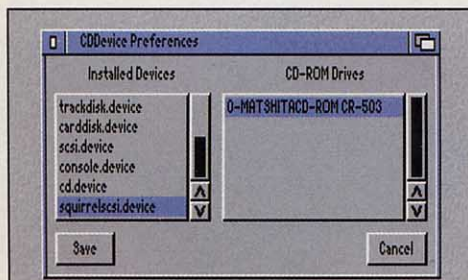
Do you want to make the most of your A1200's limited expansion capabilities, but can't quite afford to splash out on the Ramiga Z5 system reviewed last month? Buy a Squirrel! **John Kennedy** explains.

**T**he A1200 has three useful interfaces: an internal IDE connector, a trapdoor port and the PCMCIA card slot. It might seem like a lot, but it's getting increasingly easy to fill them all up and then discover you have effectively blocked any future expansion plans.

This is especially true of the PCMCIA slot: as a Highlander fan might say: "There is only one" and you better know exactly what you want to stick into it. One thing is for sure, the HiSoft Squirrel is going to make expansion plans a lot easier. The Squirrel is a fully working SCSI2 interface on a slot-in PCMCIA card, no larger than a box of Swan Vestas. A thick 50cm long lead comes from the Squirrel, terminating in a standard 50-way SCSI connector. You might be more used to the 25-way D-type connector present at the back of GVP hard drives and A3000s, but the 50-way clip-on type connector is slightly more standard.

This connector allows up to six external SCSI devices to be attached, which means that you can add CD-ROM drives (yes, more than one if you like), hard drives and tape streamers – and have them all connected and operating at once. For example, the Squirrel lead is connected to the CD-ROM drive, a hard drive is connected to the CD-ROM drive and a SyQuest removable optical drive is connected to the hard drive. Suddenly the one PCMCIA slot isn't a problem anymore.

As the A600 also has a PCMCIA slot, this machine too can finally have a CD-ROM drive or SCSI hard drive attached. However, remember that the lack of an AGA chipset on the A600 means it will be impossible to play any CD<sup>32</sup>-specific games.



The CDPreference window keeps track of any CD-ROM drives attached and makes sure they behave as much like a CD<sup>32</sup> as possible.



## Installation nightmare?

Unfortunately, when it came down to installing the Squirrel on my A1200, things didn't go too well. In fact, it was a nightmare, but I have to point out that this was *entirely my own fault*. First of all, the A1200 was running a weird hybrid of Workbench 3.0 and Workbench 3.1 on its internal IDE hard drive after a few previous experiments.

Secondly, the PCMCIA pins in my much-maligned test A1200 had become slightly bent – heck, one even broke off as I tried to straighten them out (don't try this at home kids). As for

reading the rather detailed and well-written instruction manual... hah, I'm an expert!

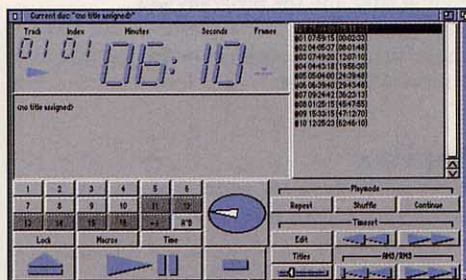
Things were looking grim until I reinstalled the standard Workbench 3.0 disk and gently eased the Squirrel home, whilst whispering encouraging comments to it. I even read the manual.

What this all means is that as long as you are not an 'expert' like me, you'll get the entire installation process done in four minutes flat.

I installed the HiSoft software, connected a nearby SCSI CD-ROM drive, rebooted and guess what? The Super Stardust CD in the drive booted automatically and I temporarily had a CD<sup>32</sup> to play games on. Cool! Oops, I forgot – no games in Amiga Shopper.

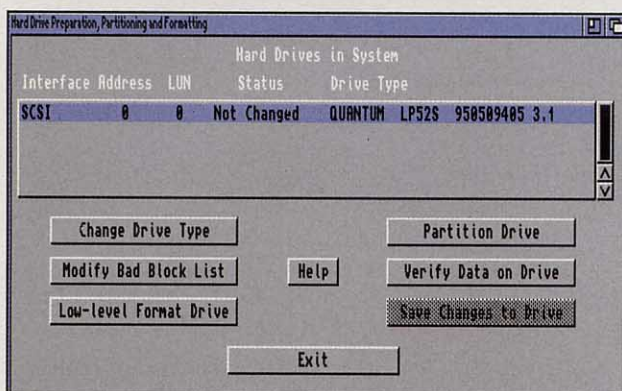
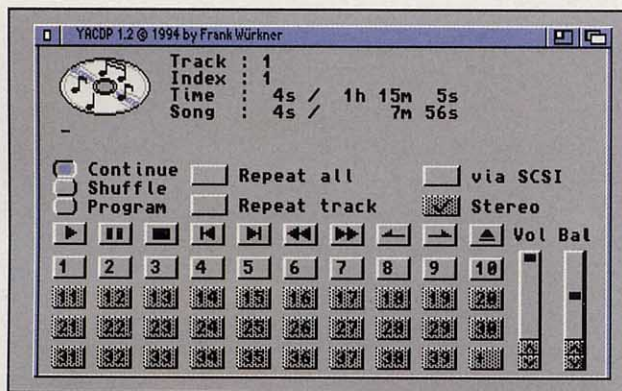
Er, what I meant to say was that inserting a serious CD-ROM (the latest Amint as a matter of fact – more than enough reason to get a CD-ROM drive in itself) meant that I had an extra disk icon on the Workbench, with the best part of a Gb of Public Domain software at my beck and call. The Squirrel's CDFilesystem (well, Commodore's actually) automatically deals with any CD-ROM as any other disk; except, of course, they are very big (600Mb) and you can't save anything to them.

I also tested the Squirrel with a SCSI hard drive. The supplied software (a version of the HDToolBox that IDE drive users know and love)



The rather excellent Jukebox program, which will allow you to play Audio CDs on a CD-ROM player from Workbench (or using ARExx).





partitioned the drive easily and I then formatted it from AmigaDOS. Once more, I had an extra disk icon on the Workbench – this time 50Mb of hard drive to play with.

## Smooth running

In total, I tested the Squirrel with three different SCSI devices – two CD-ROM drives and a hard drive. The first CD-ROM was one supplied by HiSoft and was a triple-speed Toshiba mechanism. It provided data at over 500,000 bytes a second according to SysInfo; very respectable indeed. The second drive was a dual-speed Panasonic, very kindly lent by First Computer Centre. Again, it worked faultlessly.

The Quantum hard drive was a bit of a surprise, and, although rather elderly, worked extremely quickly, even faster than the internal IDE hard drive. I copied Workbench to it, and could reboot from the SCSI mechanism without any problems.

## Speed trials

### A1200/2Mb chip

- Triple Speed CD-ROM: 445,000 bytes/sec
- Double Speed CD-ROM: 315,000 bytes/sec
- Quantum hard drive: 915,000 bytes/sec

### A1200/2Mb chip/4Mb Fast

- Triple Speed CD-ROM: 526,000 bytes/sec
- Double Speed CD-ROM: 310,000 bytes/sec
- Quantum hard drive: 915,000 bytes/sec (850,000 bytes/sec on A4000/040)

Figures using SysInfo. Expect faster speeds with a dedicated SCSI2 hard drive, or if a 68030 accelerator is fitted.

Generally, the SCSI hard drive worked faster than the 3.5 inch internal IDE drive and much faster than a 2.5 inch mechanism. An A600 will not be able to match these speeds.

*The extremely surprising YACPD program will not only play CDs as Jukebox, but will actually sample the audio data directly from the disk. You can play it back live through the Amiga's audio outs, or save samples to disk as IFFs. Impressive, but not compatible with all CD-ROM drives.*

*If you are adding a SCSI hard drive to the system, good old HDToolbox comes to the rescue. It will 'prep' the drives for you and allow partitions to be set. It's all explained in the HiSoft manual, thank goodness!*

Some Public Domain utility software came on disk, including a spare CDFilesystem for the board and some excellent Audio CD support programs. Now I could play Orbital from the Workbench and, even better, the Toshiba drive could sample the audio over the SCSI cable and replay out through the Amiga's own audio ports – or even save it as an IFF sample. Lots of scope for experiments there.

Damn it, Amiga Shopper or not, games are important, especially as the Squirrel claims to provide CD<sup>32</sup> compatibility. It aims to do this by providing special scripts which can switch off extra memory, or processors (not all CD<sup>32</sup> games will fail with these extras present; some well-written ones will work better with them) and a few libraries to add CD<sup>32</sup> specific features.

It's a technique that works well – certainly with the games I tested. You can expect James Pond, Brutal Football, Liberation and Pinball Fantasies to work perfectly.

If you can't get a CD<sup>32</sup> game to load and run automatically, something which will happen in the vast majority of cases, you can tinker with the start-up settings. If you are not technically minded, you can be sure that others will get the necessary settings worked out and will make them available. The only real problems I had were with getting some old CDTV titles to work – but that is hardly a cause for crying yourself to sleep.

Compared to a dedicated CD<sup>32</sup> emulator, and excluding Commodore's for the simple reason that you can't get one, there are several advantages. For starters, you aren't stuck with a CD-ROM drive – you could get a hard drive and only then add a CD-ROM if you really wanted. SCSI hard drives are a lot cheaper than internal 2.5 inch IDE drives and, as they are fitted externally, you won't have to worry about opening your A1200/A600's case up.

The only downsides are the level of CD<sup>32</sup> compatibility (time will tell which system is best; I'd estimate they are pretty much on a par) and the

## The SCSI story

The Small Computer Systems Interface has been with us a long time now (it dates from the late Sixties, which means it's as old as I am – phew), but has still refused to be superceded. It's a platform independent standard, which means that as long as you can get an SCSI interface for your computer, you can use any SCSI peripheral, assuming you have the correct software driver that is.

In practice, the Amiga is well served and it is possible to use CD-ROM drives, hard drives and magneto-optical drives without any problems. Each SCSI device has its own unique SCSI 'ID' code, set by jumpers or switches on the peripheral itself. Up to seven devices are supported on any SCSI chain, but the interface itself is considered to be a device, which means that six distinct boxes can be connected. However, if you are using a multiple disc CD-ROM player, there is provision to address each disc individually using 'LUN' numbers.

The Squirrel is a SCSI2 device. It understands the enhanced SCSI2 command set whilst maintaining downward compatibility with any older SCSI equipment, such as older hard drives. When connected to dedicated SCSI2 peripherals, data transfer is faster. Incidentally, you can pick up smaller capacity second-hand SCSI drives for peanuts these days – but try before you buy in case of many 'bad blocks' (failures) on the disk.

One potential program for SCSI users is Termination. A series of SCSI peripherals and cabling can start to act rather like a large, long tank full of water. Signals are transmitted from one end to the other as ripples, but if the ends of the tank are not treated carefully, reflections can be set up which cause the signals to become corrupt. Dealing with Termination is usually only a matter of setting a jumper on a CD-ROM drive, or possibly fitting a small resistor pack to a hard drive, but it can lead to unpredictable results if you forget about it.

lack of a method of mixing the Amiga's audio output and CD player audio.

## Flexible system

If you want to build up a flexible system, you should consider putting the Squirrel at the heart of your A1200's expansion plans. Not only can you add the CD-ROM drive which suits your requirements (you choose the speed, make and price), but hard drives and other media as well. The only snag is tracking down suitable boxes and power supplies to house them all in. But HiSoft will quite happily discuss suggestions with you and sell you some solutions if you require. HiSoft are also selling a wide range of suitable SCSI equipment at excellent prices.

During the tests, the Squirrel worked extremely well – at times better, more reliably and even faster than the SCSI2 interface in my A4000. The CD<sup>32</sup> emulation is a sterling piece of work and, to be perfectly honest, after the Ramiga Z5 system (reviewed in issue 47 – see page 106 for back issues) this is one of the most important A1200 peripherals yet made. You'd be nuts to miss it! ■

## Squirrel

**Price:** £69.99

**Supplier:** HiSoft

**Contact:** 01525 718181

**Verdict:** 95%



Star buy





# EMPLANT

*The World's First Multi-Platform Emulation System!*

## Macintosh® Emulation Module

The Macintosh emulation module is a 'generic' Macintosh with the speed of the emulation depending on the processor your Amiga is using. An A3000 is equivalent to a MAC IIci. An A4000 is equivalent to a Quadra 900. Support for up to 16 colours is provided for non-AGA machines. A4000 owners can use a full 256 colours! Up to 24 bit (16 million+) colours is supported using third party video boards such as: Picasso II, EGS-Spectrum, Vivid-24, Rainbow II, Rainbow III, Visiona Paint, Merlin, Retina, Retina Z3, Piccolo, EGS110/24, and OpalVision! Built in multiple file transfer allows for quick, easy transfers between the Amiga and MAC emulation. Support for AmigaDOS devices, Scanners, CD ROM, MIDI, SyQuest removable drives, Printers, Modems etc. Full stereo sound is supported too! Requires Macintosh ROMs (not supplied).

## £586DX<sup>SM</sup> Emulation Module

We are now in the final testing stage! We have added the next generation CPU instruction set! The £586DX emulation module offers a high speed 586DX (FPU, MMU, and new instruction set) emulation with complete low-level architecture support, giving you the ability to run DOS, OS/2, NT, Windows 3.x, and even Chicago! Support for MDA, CGA, EGA, VGA, SVGA video modes, sound, joysticks, floppy drives, hard drives, extended memory, and more!

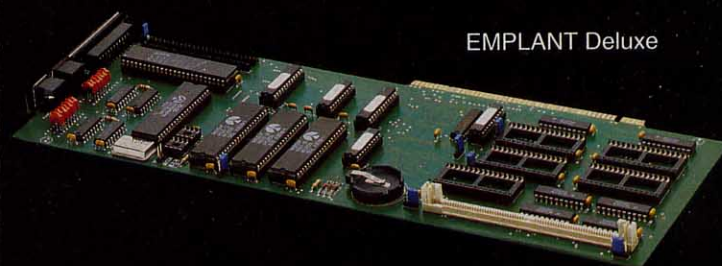
The possibilities with a multi-platform machine are endless. Now you can take advantage of a whole host of great software previously unavailable, and use them to complement each other. By upgrading your Amiga (extra memory, faster processor, etc) you instantly upgrade your emulation too!

**Blittersoft are the exclusive European distributors for Utilities Unlimited.**  
We provide the only full technical support service, as well as software upgrades to all official UK boards. Check before you buy.

Four different versions of EMPLANT are available. (All Zorro II)

EMPLANT BASIC	Base emulation card	£249.95
EMPLANT OPTION A	As Basic + AppleTalk	£299.95
EMPLANT OPTION B	As Basic + SCSI	£299.95
EMPLANT DELUXE	As Basic + Opt. A & B	£349.95
£586DX <sup>SM</sup> MODULE	For all versions (Pre release)	£ 99.95*
£586DX <sup>SM</sup> MODULE	For all versions	£119.95

\*Pre-order your £586DX module or complete system before release to make a £20.00 saving - No money debited until release - Guaranteed!



EMPLANT Deluxe

## FolioWorX Player

Take the next step forward into the MultiMedia age! Kodaks brand new Portfolio technology combines the stunning 24-bit quality of the PhotoCD with 16-Bit sound to offer interactive sound and vision! This technology can be used for company presentations, training CD's and even games - bringing everything to life on your screen.

Supports all Amiga resolutions (including AGA)  
Control the software via Mouse, Keyboard or Game Pad  
Audio in CD Quality  
SlideShow function for normal PhotoCD's  
Includes CD ROM Filesystem for PortFolio and PhotoCD's  
Supports IS 9660, High Sierra (MAC) and CDDA (Audio) discs

Amiga version (disk) £49.95      CD32 version £49.95  
PhotoWorX (PhotoCD software, inc. save/edit etc.) £69.95

### BLITTERSOFT.

40 Colley Hill, Bradwell, Milton Keynes, Bucks. MK13 9DB U.K.

01908 220196 Order & Fax line 01908 310208 BBS (2400-28.8K)  
Also plesurf@cix.compulink.co.uk Fidonet 2:252/328.0

Post/Packing £5.00 (3 day) £8.00 (Next day)

Credit card orders attract a 2.5% surcharge (not debit cards)

E&OE (Prices correct at time of going to press) Euro/Trade Enquiries welcome.

## WE CAN SUPPLY MANY OTHER AMIGA PRODUCTS TOO!



PICASSO II 2MB WITH TV PAINT JUNIOR	£299.95
PICASSO II 2MB WITH TV PAINT 2.0	£449.95
PABLO VIDEO ENCODER	£129.95
PICASSO II 2MB WITH TV PAINT JUNIOR AND PABLO	£399.95
PICASSO II 2MB WITH TV PAINT 2.0 AND PABLO	£549.95
LIANA NETWORK (INCLUDES ENVOY SOFTWARE)	£ 59.95
ARIADNE ETHERNET CARD	£199.95
TRAPFAX	£ 49.95

**NEW NEW NEW NEW CD32 EMULATOR NEW NEW NEW NEW**

This new software package will turn your AGA machine into a CD32, even booting CD32 games via a special launch sequence as you boot up. You can alter volume, emulate the controller via keyboard, use joysticks, set language, save high scores etc.

Total compatibility cannot be guaranteed, but has proven to be very good with many tested titles. (Microcosm, SleepWalker, James Pond II etc, etc.)

Also includes CD Filing system, Search/Mount software and JukeBox programs. You will require a suitable CD drive such as any of the Toshiba drives found in this advert.

**Only £39.95**

## OS 3.1 - OFFICIAL UPGRADE

Now available for a range of machines. This new operating system will bring your machine up to the very latest revision.

A2000/3000 owners can use 256 colours with Picasso and OS3.1 with Workbench and OS friendly software.

A500 / A2000 (not rev 5 or less motherboards on A500)	£ 84.95
A3000	£ 94.95
A4000	£ 94.95
TOSHIBA CD ROM 4101B (INTERNAL)	<i>Suitable for FolioWorX</i> £ 199.95
TOSHIBA CD ROM 4101S (EXTERNAL)	<i>PhotoWorX and CD32</i> £ 249.95
TOSHIBA CD ROM 3401B (INTERNAL)	<i>Emulator.</i> £ 249.95
TOSHIBA CD ROM 3401S (EXTERNAL)	£ 349.95
ANY ABOVE WITH PHOTOWORX (KODAK PHOTO CD) ADD	£ 59.95
ANY ABOVE WITH CD32 EMULATOR ADD	£ 34.95

WARP ENGINE 28MHz (NO CPU)	<i>Boost that Emplant board!</i> £ 599.95
WARP ENGINE 28MHz (WITH CPU)	£ 799.95
WARP ENGINE 40MHz (WITH CPU)	£1199.95

SyQuest 105Mb REMOVABLE SCSI DRIVE INTERNAL	£ 229.95
SyQuest 270Mb REMOVABLE SCSI DRIVE INTERNAL	£ 349.95
SyQuest 105Mb REMOVABLE SCSI DRIVE EXTERNAL	£ 299.95
SyQuest 270Mb REMOVABLE SCSI DRIVE EXTERNAL	£ 429.95
SyQuest 270Mb REMOVABLE IDE DRIVE INTERNAL	£ 199.95
SyQuest 270Mb REMOVABLE IDE DRIVE INTERNAL	£ 349.95
SyQuest 105Mb CARTRIDGE	£ 49.95
SyQuest 270Mb CARTRIDGE	£ 59.95



# Pegger 2

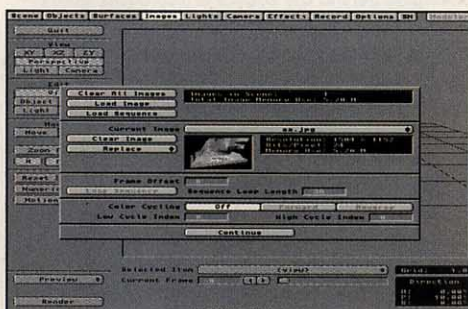
Seamless support for compressed images is now within your grasp and **Nick Veitch's** too.

**T**he Joint Photographic Experts Group standard for compressed images, JPEG, has really taken off since its inception at the beginning of the decade. This file format allows phenomenal compression ratios of at least 4:1, and if you are prepared for lossy compression, that is to say compression where the stored image is not completely faithful to the original, you can even reap the benefits of a ratio around 20:1 without a noticeable lack of quality.

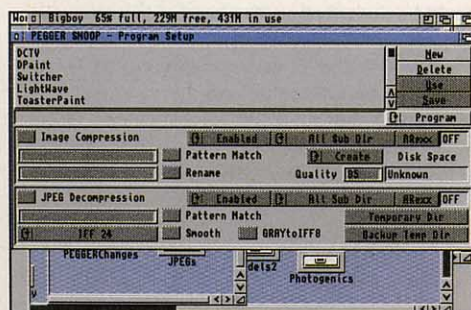
The importance of JPEG becomes apparent when the average size of images (a 24-bit overscan image is typically over 1Mb) has outgrown the average size of the storage media (a standard Amiga floppy stores only a little over 800K).

Pegger is a runtime compression and decompression utility. It acts as a buffer between your chosen application and image files on disk, allowing you to use JPEG files even if your main application doesn't support them.

Once you have installed Pegger (made easy by



Now you can import JPEGs directly into software such as LightWave.



With Pegger 2 you can snoop on applications, rather than just a single directory.

## Improvements

Pegger 2 has made some significant advances on the original version. As well as the increased file format support and the application specific snoop (as opposed to simply monitoring a specific directory), this latest version has added Network support.

It certainly works on Parnet, which is very useful for those of you who are using an old CDTV as an intelligent CD-ROM drive. It seems to work on Envoy, and it is claimed it will also work on OXXI's Novell compliant network software, although we were unable to test this.

the standard Commodore Installer utility) and run it, all the Pegger utilities can be accessed by the Workbench "Tools" menu. It is necessary to have Workbench 2 to run this software and you will also need at least 2Mb of RAM.

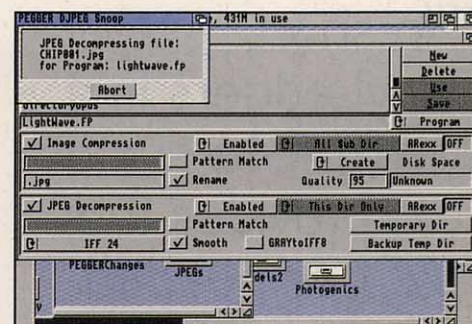
Having selected the Snoop utility from the menu, you can specify which applications should invoke the Pegger routines. The main failing of the Snoop software is its complexity. It does have a wide range of features and options, but it could be difficult to configure them to your requirements without much consultation with the manual.

If you prefer working by the old Pegger method, where the Snoop program continually monitored a specific directory and compressed, or decompressed, anything that was written into it, you can also select this from the main Snoop window.

As well as supporting decompression to 24-bit IFFs, Pegger 2 can also support RGB8 files (as used by Imagine and TurboSilver), 256-colour IFFs, Targa (as used extensively on the IBM PC and also supported by LightWave and Real 3D) and also Greyscale JPEGs, a specific type of JPEG image which is more economical to use when storing 256-grey images.

Obviously some programs, such as Brilliance, will not be able to deal with 24-bit IFFs, but you can select a destination format for Pegger's decompression utilities, such as HAM8 or 256-colour mode. Unfortunately, this does not stretch down to non-AGA screenmodes (HAM would have been nice).

In use, a small window will open in front of your application, telling you that Pegger is working. Obviously, Pegger's speed is very much dependent on the size of the image and the speed of your Amiga, but, even so, Pegger is not



A window will pop up to tell you when Pegger is processing a file – handy, as it can take a while.

quite as fast as having software that directly supports the JPEG format.

The DJPEG and CJPEG utilities can also be used for batch file compression. They work very well even in a basic "compress everything in this directory" format, and can easily outperform ADPro, even when using a custom ARexx script. The Compression routine, in particular, has been improved and is now almost twice as fast as the original Pegger. Pegger also has full ARexx support, so if you really want to dabble in some arcane coding, the software won't grumble.

Pegger is a particularly useful utility if you are dealing with advanced DTP or 3D rendering, or, in fact, any other task which deals with traditionally large, 24-bit images. It copes with these tasks easily. When it comes to the crunch, though, it is simply a matter of convenience – if you are doing these tasks, you probably use ADPro, Image FX or Photogenics already, which can all translate JPEGs into any other form you could want – but, if time and effort are important to you, Pegger may be just what you need.

The software *could* be easier to set up, it *could* support HAM images, it *could* probably be even faster, but it does what it set out to do cleanly and efficiently. If you just can't be bothered to write a script for ADPro, or your time is worth far too much to waste it converting images, let Pegger have a go. ■

## Pegger 2

**Price:** £34.95

**Supplier:** Ramiga

**Contact:** 01690 770304

**Verdict:** 75%



# Easy Ledgers

The idea behind EasyLedgers is to provide everything you will need to run a small business in one package. **Graeme Sandiford** finds out whether this accounts package is worth its weight in gold, or not.

“In short, EasyLedgers is a **complete** system that provides the features needed to keep up the accounts of a small business.”

**T**here are three main types of software in this world. Exciting software that you want and functional software that you need in order to perform a certain task. The third type are the programs that you need, but are only on the PC and Mac. The prime example of such software is commercial-quality accounting packages.

The Amiga has been starved of them for years now and while it may not be as exciting as an image processor, or a ray-tracer, a new accounting package certainly deserves a look. EasyLedgers 2 (I don't quite recall ever seeing the first version, though) is just such a package and a promising one at that, which has been published by Australian developer Small Biz Software.

One thing that surprised me about this package was that it came with a dingle. You might expect this of a graphics program that could cost anywhere between £200 and £500 – but, EasyLedgers 2 costs £200, so maybe it shouldn't be so surprising. Right, I'll give you a few moments to recover from that £200-shocker. Yes, 200 smackers *does* seem like quite a lot of money, but do bear in mind that you could end up paying at least double that for a PC package.

But is EasyLedgers really worth £200? That will pretty much be the only judging criterion, as the program has no competitors. Initially, while holding the single diskette that it comes on, I thought no – I mean, £200 for one disk? One good thing about the program's size is that it's easily and quickly installed. You'll need a hard drive, 2Mb of memory and Workbench 2, or above, to use the program.

## The business

The idea behind EasyLedgers is to provide everything you will need to run a small business in one package. Because of this, integration of the modules plays an important part in determining how effectively the program can be used. The program takes a logical approach to this – as you enter your account, you can choose to enter any section of a particular account. There are five of these – the Purchase, Sales, Ledger, Inventory and Jobs sections.

Once you have entered one of these sections of an account, you can quit out of it and then enter another section without having to leave the program. While this is a workable system, it would

have been handy to be able to open several of the sections at once. This would, for example, enable you to compare suppliers' details with those of your buyers. Perhaps a window-based system, where you could cycle through sections and re-size their windows, would have been better.

Aside from that, the program has quite a nice interface with lots of large, colourful icons and a logical structure. The structuring of the program lends itself to a hierarchical way of working that can help inexperienced book-keepers get to grips with how to computerise their accounting system.

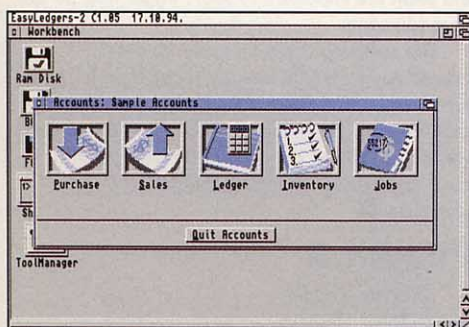
The manual was a pleasant surprise – I had been staring at it for at least an hour while in a state of dread. The reason was that I was experiencing flashbacks to my A-level accounting lessons, which was an entirely unpleasant business and one that left me with a fear of accounting-related books. But, after plucking up the courage to open it, I found that it was surprisingly easy to follow – how I wish I had that manual all those years ago! It's as easy to follow as it could be and, what's more, it does an excellent job of explaining the book-keeping principles behind the software. You could learn to use the software, with no prior knowledge of accounting, within a day. It gives you an overview of the program's capabilities and takes you through step-by-step exercises.

## Famous five

As mentioned before, the program is divided into five parts: the Purchase Book – for keeping track of payments to your suppliers; the Sales Book – a record of the dosh you raked in from sales to your customers; the Inventory Book – which keeps track of your stock; Jobs – a record of employees and payments that have been made to them; and what could be described as “the heart of the accounting system” – the Ledger Book.

A nice feature of these different books is that they share the same interface. So once you are familiar with one book, and familiar with the ideas behind the others, you should have no trouble entering the necessary details into them. Most of them have four main sections – transactions, current accounts, categories and reports.

The Purchase Book has a fairly small number of transaction types, as purchasing goods is a fairly straightforward process. Basically, you purchase the goods, keep and pay for them if satisfied, or send them back if not. The transactions



This is the main interface of EasyLedgers 2 – from here you can access any of your books.

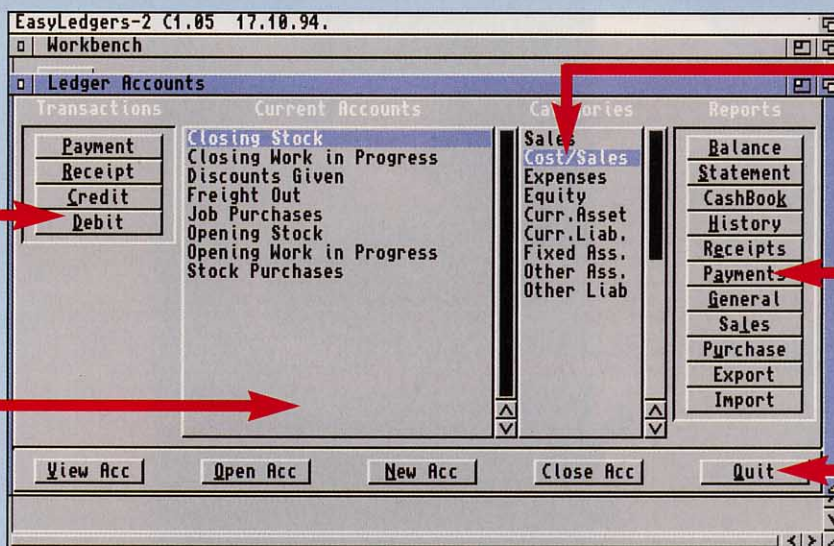


## A typical EasyLedgers book interface

Here's the Ledgers Book. It's the place where all the transactions come together and gives you an idea how much money you've got.

All of EasyLedgers' books follow this format. These are the available transactions for the Ledgers Book - the other books have more or less the same transactions available.

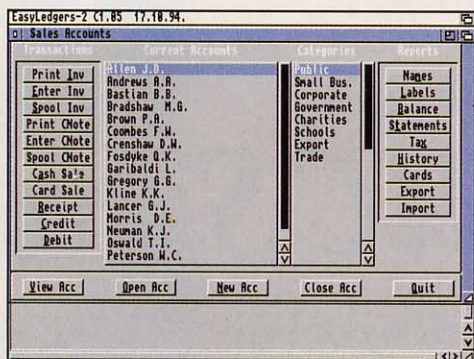
This is the Current Accounts area. It's where the details for each of your customer's accounts can be found.



The Categories function enables you to group your current accounts into, er... categories.

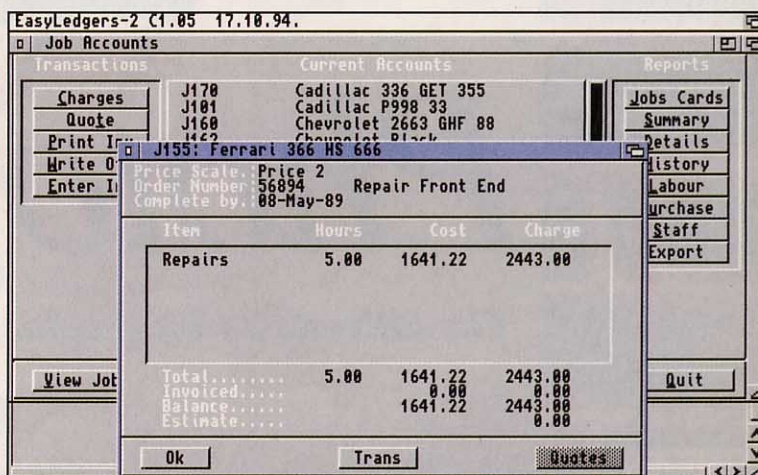
If you would like a report on your current accounts, you only need to choose what you want it to be based on.

This is the quit button Uhh... pressing this will take you out of the book you are currently in.



This is the Sales Book. It's the place where you find out how much dosh you have made and from who.

Would you look at that bill for five hours work! Still, these Ferrari-owners deserve it. Jobs is the part of the program that can be used to price jobs.



that are available are: Purchase, Return, Payment, Credit and Debit.

The Categories function can be used to organise your current accounts. This can be done on the basis of the account's first letter, or any other criterion you may think of. When you click on a category, only the specific accounts that fall into that category are displayed in the current accounts box.

Reports can be produced on one of several factors. For example, you could ask for a report on the accounts by name, balance or labels. This is a quick way of determining the overall status of your current accounts.

The Sales Book is almost a mirror image of the Purchase Book, except it has a few more transaction types and reports. You still have the Credit and Debit transactions, but you also have Cash and Credit Card sales. You can also print invoices which can be sent out to customers. As you are dealing with sales and need to keep account of things like tax and credit card company charges, these have been added to the reports function.

Jobs follows the same format as the others, but, instead of limiting transactions to sales and purchases, you have to take into account materials

and labour involved in the completion of a job. What's more, each employee can have their own rate of pay which is then automatically multiplied by the number of hours that member has spent on the job.

## Automatic for the people

I've left the Inventory and Ledger books to last, because they are probably the most crucial parts of the program. The coolest thing about these two, in particular, is that they are both updated automatically. For example, if you select a stock item while in the Sales Book and enter it as sold, it will be automatically removed from the Inventory. After all the transactions have been made, you'll find out the overall status of your operations. As soon as you request a report, then the Ledgers Book will look up all the relevant information from the other books.

Well it would seem that EasyLedgers 2 is quite integrated. Whenever a change is made in one book that affects the others, as soon as they are opened, all the transactions are updated.

So, once you've got all of your inventory set up, you need only enter your transactions and your accounts will be kept current. Of course, you have

to get in new stock yourself and make your own sales. In terms of accounting features, I can't really think of any that have been left out - every business-activity is taken care of. In short, EasyLedgers is a complete system that provides the features needed to keep up the accounts of a small business.

That only leaves the big question - is EasyLedgers really worth £200? If I were running my own business, I would probably say yes, but only just. It has all the features; it has the ease-of-use, but it's just a little expensive - £150 would probably be nearer the mark and would definitely have won it a Star Buy award. Then again, as it is really the only option for someone looking to run a business on their Amiga and bearing in mind that it's quite a small market, it might be worth it. So there you have it, EasyLedgers does the job well, it's just about worth £200, but is not really exceptional value. ■

## Easy Ledgers

**Price:** £199.99

**Supplier:** Wizard Developments

**Contact:** 01322 272908

**Verdict:** 89%



A vibrant, hand-drawn illustration. In the center, a silver and black SLR camera with a large lens is positioned. Above the camera, a series of yellow stars of varying sizes are arranged in a curved path against a blue background with white clouds. To the left of the camera, there are large, stylized green leaves. Below the camera, a bright, multi-colored rainbow arches across the scene. In the bottom left corner, the tips of several colored pencils (red, orange, yellow) are visible, suggesting the artwork was created with them.

***The ultimate 24-bit graphics and manipulation package***



*- no 24-bit graphics board required.*

AMIGA  
SHOPPER  
**92%**

• ORDER BY PHONE: 0181-687 0040 • ORDER BY FAX: 0181-687 0490 • ORDER BY MAIL : CUT OUT THE ORDER FORM AND SEND TO  
ALMATHERA, Southerton House, Boundary Business Court, 92-94 Church Road, Mitcham. Surrey. CR4 3TD. England.

*\* Photogenics will work on any Amiga with a minimum of 68020 CPU, 2Mb RAM and Kickstart 3.0.*



Please send me ☐ copy(ies) of *Photogenics* at £57.45 UK\* (Inc P&P) each. Title:.....Initial(s): .....Surname: .....

Address: .....



County ..... Postcode/zip: ..... Country: .....

**CREDIT/DEBIT CARD No:****EXPIRY DATE:**[illegible]

Cheque /Postal Order or Bankers Draft for: £ : Payable to **Almathera systems Ltd.** **AmShp**

Card Authorisation Signature

\*• All other countries outside the UK £62.00  per copy



# CD-ROMs

*CD-ROMs are currently one of the biggest growth areas of Amiga software and from now on Graeme Sandiford will be showing us some of the very best offerings every month.*

**W**elcome to a new regular section of the magazine where we will be taking a look at some of the best CD-ROMs around. This month, we'll be taking a look at an eagerly-awaited LightWave CD-ROM, a German raytracing collection and a double-disc collection from CAM.

## Light-ROM V1.0

Now this is a CD that has been selling really well, no *really* well. PD Soft have been swamped with orders – and that was before they even had any in stock!

It's a CD-ROM that primarily contains files that can be used with LightWave 3D. However, it can also be used with other 3D packages, because they are directories devoted to Imagine-formatted objects, textures, bump maps, DEMs and even some Fred Fish disks.

If you are looking for inspiration, then you need only look as far as the showcase directory. This contains some absolutely stunning examples of what can be done with LightWave.

Before I go on to rave about the contents of this disc, let me first mention a feature that I've found lacking from most collections. It always drives



*The tension is mounting in this image taken from Light-ROM's Showcase directory.*

me up the wall when I come across a CD-ROM collection of 3D objects or images without an index. Thankfully, Light-ROM has indexes for its images and for its objects. They contain thumbnail images of a directory's contents which can give you an idea whether or not you want to load an object, or apply a texture.

Right, on to the contents. The first place I went to was, as you might have expected, the LightWave objects directory. Here I was treated to all manner of 3D objects. You'll find everything from flowers to almost every sci-fi spaceship you've probably seen in the last 20 years. As the objects have been modelled by a wide range of people, from hobbyists



*Here's another example piccy. This atmospheric scene has been created by the ElfWorks.*

to professional studios, the quality *does* vary quite a bit. However, on the whole, they are of quite a high standard – the Babylon 5 objects were particularly impressive, especially the Delta Fighter.

However, this is not an object-only collection and there are plenty of other useful files. Some of the textures are truly excellent, as well as practical. There are also some tutorial scenes, such as the plasma ball from LightWave Pro, and an incredible amount of surfaces. An added bonus was finding the macros directory, which is filled with useful scripts for Modeller.

The surfaces are particularly welcome and they cover several everyday surfaces, as well as one or two more outlandish ones. Some of the basic ones are also subdivided by colour, such as blue, cyan, orange and so on. There are also some organic, metallic and crystalline surfaces.

The FX directory is also a good source of interesting files. It contains scenes and objects demonstrating firework, flame, fountain like, sparks, glint and particle effects.

Well there you have it – it's a CD-ROM jammed full of gorgeous objects and fascinating files. I can understand the demand there has been for this CD and can personally guarantee that it will keep most LightWave users engrossed for hours on end. Don't forget, there are plenty of other files that will be of interest to users of other 3D packages. This has got to be my favourite CD of *all* time.

## Light ROM

**Price:** £39.99

**Supplier:** PD Soft

**Contact:** 01702 466933

**Verdict:** 97%



Star buy



*I created this image using an excellent Babylon 5 Delta Fighter modelled by Planet Z.*



## Amiga Raytracing (Vols. I & II)

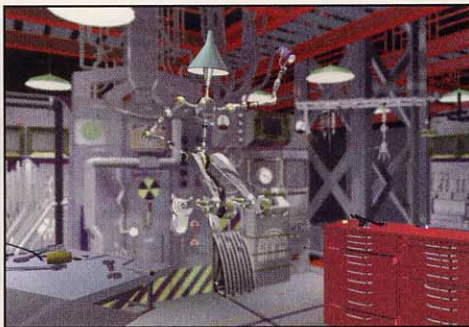
One of the many marvels I encountered while at the Computer '94 show in Cologne was a wide range of CD-ROMs. The first reflective disc that caught my eye was called Amiga Raytracing, containing a variety of files for use with different programs. This includes objects, fonts, 24-bit textures, reflection maps, Imagine attributes, some rendered images and a demo of an older version of Maxon Cinema 4D.

The number of object file formats is quite extensive and includes Imagine, LightWave, Maxon Cinema, Real 3D V2.0, Reflection 1.6 and 2.0, DXF, Sculpt and Caligari. The objects are split into sub-directories which are, of course, labelled in German. However, it's not very difficult to figure out what kinds of objects a directory contains. Although a printout that could be used to determine the quality and exact nature of the objects would have been welcome.

Most of the objects have been collected from PD sources. As a result, owners of collections such as Syndesis' 3D-ROM will already have most of the objects. However, as with the 3D-ROM, these objects are of a generally high standard. Subjects that the objects cover include: biological, computers, architecture, the sea, autos, aircraft, buildings, household items and office furniture. Some of the objects' directories contain a rendered image of that object too. Although not consistently so, this is very handy.

No matter how detailed a model is, it can always be improved by the addition of a good texture. Textures can provide definition, realism and add a finishing touch to rendered images. You'll be glad to know that the discs (vols. 1 and 2) have textures in plentiful supply – I am not entirely sure of the exact figure but, including the bump maps as well as the 24-bit images, it's in the region of 500.

Thankfully, picture indexes have been supplied for these files, so you don't have to view each one individually. There is a pretty good mixture of images, ranging from scanned pictures to what appear to be fractal-generated patterns. The surfaces that have been scanned include a variety



*The rendered image of this energetic chap can be found on volume 2 of Amiga Raytracing.*

of metals, marble, stone and brickwork. The scanned images are of a high standard and are stored as 24-bit IFFs. Storing them as IFFs is a great time-saver, as most 3D packages cannot use JPEGs as textures or bump maps. As JPEG is such a highly-compressed format it's very popular – as a result, several collections store their textures in this format. However, this means you would have to spend ages converting JPEGs to IFFs.

The other directories include some rather tasty real-life backdrops – loads of forests, skies and other stuff – and a demo of an older version of Maxon Cinema 4D. I won't rave on any more about Maxon Cinema, but it is an excellent package that shows a lot of promise. The rendered images directory contains some excellent examples of the work of 3D artists from around Europe. A word of warning about the backdrops though: they are huge – some are over 1Mb in size. The second volume follows pretty much the same format, but doesn't have a demo version of Maxon Cinema.

These are a couple of high-quality discs that should prove useful to most 3D artists. At £19.99 each they make an excellent buy.

### Amiga Raytracing I & II

**Price:** £19.99

**Supplier:** PD Soft

**Contact:** 01702 466933

**Verdict:** 92%



Star buy



*Amiga Raytracing volumes I and II are full of detailed images and objects.*



*The lighting in this scene is wonderful. This is just one of the images on the CAM CD-ROM.*

## CAM

CAM is a double-disc CD collection that contains well over 950 disks worth of PD. CAM actually stands for Club Amiga Montreal, who are the very same folks who have compiled the disks and this CD-ROM collection.

They have been around for some time now and have amassed quite a collection. The disks have included a number of useful programs and files, but one of the best features of the collection is the way that it is structured. Unlike other large collections, the disks have a theme. For example, you might have one disk full of text utilities and then another of pictures.

The format of this disc is one that is being utilised more and more. All of the contents of the disks are stored in a single directory of both discs. They have been archived by lha, so, if you know the disk number you are after, you can just wade straight in and extract. If you don't know the disk number, then you'll find the AmigaGuide of great value.

As with the AmiNet CD-ROMs, the guide can be used to find out what is on a particular disk through a brief description, or for extracting them. To extract a file you need only click the disk's extract node. By default the archives are expanded to the DF0: device. This can be changed to another of your choice, such as RAM: or a hard drive directory, by running a script called WhereTo.

The document's contents are split into two main areas. The bottom half of the screen has nodes organised according to the themes of the disks, while the top half are labelled by disk number. The themes include: images, animations, games, education, emulation, programming, text, audio, 3D files, graphics utilities, comms, fonts and mixed utilities.

The files go back quite a while and there are plenty of gems to be found. At first I was not very impressed with these discs, but after a few minutes of delving I found a fair number of excellent files and good programs. Two of the highlights of this collection are the animations and 3D disks. The 3D area contained just about every PD 3D object that I've ever come across and a few more besides. The animations include some real classics that are sure to get you chuckling or staring in admiration. ■

## CAM

**Price:** £24.95

**Supplier:** Almathera

**Contact:** 0181 687 0040

**Verdict:** 86%



# AMIGA inside

## A1200 RAM

New low-cost 32 bit A1200 RAM cards with clock, FPU socket & standard 72 pin simms.

0MB card	£49
1MB card	£65
2Mb card	£99
4MB card	£169
8mb card	£299

For FPU see below

## A 600 RAM

New low-cost 1MB ram cards for A600. -Simply plugs in trap door !

1MB	£20
1MB with clock	£33

## A500 plus RAM

Low-cost 1MB ram cards for A500 plus

1MB	£20
-----	-----

## A 500

1/2MB ram card	£15
2MB	£120

## VIPER 68030

28MHz	0mb	£109
28MHz	2mb	£169
28MHz	4mb	£230
28MHz	8mb	£379
40MHz	0mb	£179
40MHz	4mb	£319
40MHz	8mb	£479

For FPU see below

## F.P.U.

Floating point unit for our A1200 ram cards & Viper boards

28MHz	£25
33MHz	£55
40MHz	£79
50MHz	£110

## simms for GVP1230

1MB	£35
4MB	£169

This simm are also used in GVP 1230 II, A580 & G-Force

## 72 pin simms

1MB 72 pin	£27
2MB 72pin	£65
4MB 72pin	£129
8MB 72pin	£269
16MB 72pin	£399
32MB 72pin	£799

This simms 32 BIT used by Amiga 4000, VIPER, Warp Engine, M-TEC,Blizzard,Cobra 28-40 Mhz, Amitek,Emplant ,Hawk and many more. please phone for more information.

## A600 & A1200 HARD DRIVE

Best Time to buy 2.5" hard drive for your A600 & A1200 with our **SPECIAL OFFER** this MONTH.

80mb	£85
120mb	£130
260mb	£200
340mb	£275

all above drives includes cables & software

3.5" ide Hard Drive for A1200 or A4000 all at **LOW! LOW!** prices

130mb	£101
270mb	£150
420mb	£155
540mb	£179
730mb	£239
1gig	£399

3.5" drives fit straight in to A4000 and can be fitted into an A1200 with a bit of effort & a cable kit.

A1200 cable kit £10

3.5" SCSI & SCSI 2 Hard Drive all at **SPECIAL OFFER**

120mb	£99
270mb	£169
340mb	£229
540mb	£229
1gig	£429

## TANDEM

All new Tandem card for A1500 to A4000 now supports MITSUMI 3 speed & 4 speed CD-ROM

Tandem card	£69
MITSUMI 3 speed	£169
MITSUMI 4 speed	£199

Tandem can also used as IDE hard drive controller.

SEE ABOVE for hard drives

## 30 pin simms

1MB 30 pin	£27
4MB 30 pin	£99
16mb 30 pin	£449

## Scanner

Power mono scanner	£99
Alfadata 800dpi	£99
Power col scanner	£259
Epson GT6500	£579
Epson GT8000	£675
Epson GTI 9000	£999
Image FX	£99
<b>SPECIAL OFFER</b>	
OCR s/w for above scanner	35

## PRINTERS

CITIZEN	
ABC COL	£159
200 COL	£179
240 COL	£229
HEWLETT PACKARD	
320	£229
520	£249
560	£399
EPSON STYLUS 720 DPI	£449

## SQUIRREL

New PCMCIA Slot SCSI 2 interface for Amiga A1200	
Squirrel	£69
External SCSI case	£69
External SyQuest case	£69
External CD-ROM case	£69

For SCSI hard drive low price look above

## SyQuest

	Internal	External
105mb	£179	£248
270mb	£285	£359
88mb	£185	£255
200mb	£299	£365

## SyQuest cartridge

44mb	£34
88mb	£39
200mb	£60
270mb	£49
105mb	£42

## Alfapower

IDE controller for Amiga A500 & A500 plus with option to upgrade to 8mb ram

Alfapower	£95
-----------	-----

## OKTAGON 4008

SCSI Hard drive controller for Amiga A1500 to A4000 with option to upgrade to 8mb ram

OKTAGON 4008	£129
--------------	------

SEE ABOVE for hard drives

## Floppy Drives

External and Internal floppy drives from POWER Computing

Internals	A500	A1200	A4000
720k	£30.95	£35.95	n/a
1.76k	n/a	£55.95	£55.95

External	A500	A1200	A4000
720k	£39.95	£39.95	£39.95
1.76k	£59.95	£59.95	£59.95

For A600 please phone !

## Blank Disks

	DSDD	DSHD
10	£3.50	£6.00
50	£15.00	£25.00
500	£145.00	£245.00
1000	£280.00	£480.00

DISKS WITH LABELS BRITISH MADE ERROR FREE

## MONITORS

Microvitec 1438	£289
Philips 8833MK2	£229
Microvitec 1440	£419

## ZIPP RAM

1MB	£35
-----	-----

## REPAIR SERVICE

New service centre for most Amiga computers. We offer a quotation service of £10 for which we will examine your computer and report back with an exact quotation price for the repair. If the repair is carried out the £10 is then deducted from your bill.

## HOW TO ORDER

When ordering by telephone please quote your credit card number followed by the expiry date and also your full name and address. If paying by cheque please make it payable to Gasteiner Technology. In any correspondence please quote a phone number and also a postal code, please allow five working days for cheque clearance.

## DELIVERY CHARGES

Small consumables and software items under the value of £50 please add £3.50 P&P. Other items above £50 please add £10 courier service. Offshore and highlands, please call for a quotation. In addition, we offer the following express services:- Saturday delivery normal rate plus £10 per box. E&OE prices subject to change without prior notice. All trademarks acknowledged.

All prices include VAT. Prices and specifications are subject to change without notice. E&OE.

**Gasteiner Technologies**

126 Fore Street, Upper Edmonton, London N18 2XA

Tel: 0181-345-6000 Fax: 0181-345-6868



# Textures

## Combo Collection

If there is one thing that can give a rendered image that final touch and added realism, it's a finely crafted texture. **Graeme Sandiford** takes a look at a collection of scanned textures from the United States.

**G**ood 24-bit textures can sometimes be hard to find and whenever a new set comes out, it's usually well worth a good look. If you have already read R Shamms Mortier's interview with Jeff White of Visual Inspirations (on page 24), you may have caught a mention of their Pro Textures collection.

They have been created by accomplished artist, Leo Martin. He's the same person responsible for

the LightWave-specific Surface Pro (reviewed last issue – see page 106 for back issues). In fact, these same images were used in Surface Pro. Of course, unlike Surface Pro, Pro Textures can be used with any 3D program, or even video and painting applications.

This is actually a combination of three collections and covers a variety of surfaces. They have all been scanned in and are of a very high quality. The surfaces that have been scanned are:

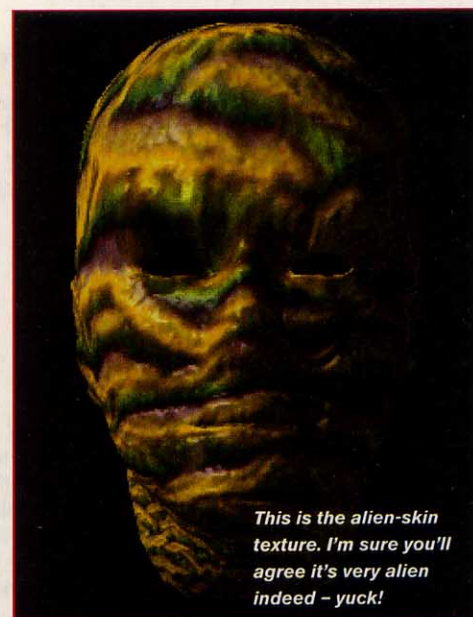
cork, eroded gold, marble, stone-wall, pyrite, rust-metal, rust-stone, pebble, crystal, clouds, flagstone, reptile and alien-skin. They're all very realistic, although I'm not entirely sure how the last two were obtained...

There is usually one factor that can let down a collection of

scanned images – tiling. If you apply the images to a large object, you are probably going to need to tile them so that they can cover the whole object.

With most scanned images, there will be an undesirable seam when they are tiled, where the patterns of two edges don't match up perfectly. It's amazing the lengths some people will go to in order to hide seams – everything from rotating an object so that the seam is hidden from the camera, to placing other objects in front in order to cover it up!

This is Pro Textures' strong point; its images are absolutely seamless – you can tile them as many times as you like. However, if you tile an



*This is the alien-skin texture. I'm sure you'll agree it's very alien indeed – yuck!*

image too many times, you'll probably notice that it has been tiled, as a pattern will start to emerge.

Of course, you can do more than simply apply the textures as colour maps. If you have an image processor, for example, you can convert some of the images to greyscale and use them as relatively effective bump maps. In the case of the eroded texture, it could be used to create a convincing lunar surface.

My one reservation with this product, as with most imported American software, is its price. Well, I think I've enthused enough about these textures, so I'll let the images speak for themselves. ■

### Pro Textures Combo

**Price:** £89.95

**Supplier:** Premier Vision

**Contact:** 0171 721 7050

**Verdict:** 88%

*All of these lovely, lovely textures, and more, could be yours.*





# Motion Master volume II

Last issue, **Graeme Sandiford** reviewed *Motion Master volume I* from MetroGFX, a collection of LightWave animation utilities. This month he's taking a look at the second volume of the same program.

**B**oth volume I and II of *Motion Master* are collections of LightWave animation utilities. I reviewed volume I last month and was impressed enough to want to cast my eager eye on volume II.

Motion Master volume II contains four utilities: Child2World, Wobbler, PointAt and VolumeCube. Installing the collection to your hard drive is very straightforward; you simply need to drag across the programs and example files to a directory of your choosing. However, if you don't have Sparks, also from MetroGFX, already installed, you'll need to copy a macro to your ARexx examples directory.

## Dysfunctional objects

One of the most frustrating problems I came across when learning to use LightWave was using parented objects. The trouble is that if you unparent an object from a hierarchy, it leaps back to its original position. Well, Child2World gets around this irritating quirk of hierarchical animation.

Child2World works by taking the positional information from the parent object and then saving this information to the child object. The program creates motion files for each of the objects, so they become independent of each other.

This program can be particularly useful when you are trying to create a scene where most of the objects stay in a similar trajectory until a certain frame. This is quite a convenient tool and although you could achieve similar functions by using LightWave's 'make key-frame for object and descendants' option, this is a quick way of adjusting to an unexpected change in an animation.

Wobbler is the second program in this collection and its sole purpose is to make your objects wobble – no, really! The idea is quite simple; input a motion and the program outputs a wobbly version.

In order to achieve the desired level of 'wobblyness', you are given control over three factors. These factors are the levels of restoring force, spring damping and blobbyness. The restoring force is the amount of force applied to bring the object back toward its rest position. If you enter a high value for this, the object quickly snaps back toward its resting place, as if attached to a taut spring. A low value has more 'give'.

Spring damping is the force that stops the object from bouncing indefinitely. The higher the

value entered, the longer the object takes to return to its resting position – because its 'springiness' has not been dampened very much.

Entering a high value for blobbyness results in a second motion file being written. This new file contains scaling information that can be used to stretch or squash an object. A simple use for this is a ball squashing slightly as it rebounds.

Applying these effects to an object can produce some impressive results. However applying them to bones can produce amazing realism – such as muscle quivering, or fat wobbling. This is an incredibly useful program to have around, because it's so versatile and can add that finishing touch to an animation.

## Pointless?

One of LightWave's coolest features is the ability to target an object with the camera, or a light. It's a shame you can't make an object target another object – oh well, maybe in version IV. But, in the meanwhile, you might try using PointAt – it does the same thing.

Targeting can be useful in a variety of scenes, especially in ones that involve tracking guns, or emulating turning machinery. It's a relatively simple tool, but one that is potentially invaluable.

The final program is VolumeCube and it has quite an interesting principle behind it – random walks. This has absolutely nothing to do with any outdoor canine-related activities, rather it's a way of

randomly controlling a group of objects. It's an alternative to methods, such as flocking, that attempt to generate natural-looking motions for several objects.

VolumeCube restricts the movements of an object to a cube-shaped area. So, while the objects can move randomly, their *overall* movement is governed by the path of the volume. If an object comes into contact with the cube's sides, it bounces off.

A fairly limited use of this program could be having a cube rolling with several objects inside bouncing around (excellent for emulating a tombola). On a larger scale, you could have several cubes with an object inside each, such as a bird of fish. This enables you to keep control over the general position and direction of the objects, while retaining a random element.

Well, that's all four programs. As with the first volume, I think this collection is a tad over-priced. But, nonetheless, Jon Tindall has created an excellent collection that saves hours of tedious key-framing and helps you to produce professional-quality animations. ■

## Motion Master v. II

**Price:** £119.95

**Supplier:** Premier Vision

**Contact:** 0171 721 7050

**Verdict:** 91%



Star buy



PointAt was used to make the missile in this scene target the plane.



# AMIGA

PRODUCTS  
FROM

**WIZARD**  
DEVELOPMENTS

SALES HOTLINE  
**01322-272908**

## SATURN

## 1MB FLOPPY DRIVE FOR ALL AMIGAS

### SATURN AMIGA EXTERNAL 1MB FLOPPY DISK DRIVE FROM WIZARD

- \* COMPATIBLE WITH ALL AMIGAS
- \* HIGH QUALITY SONY® DRIVE
- \* ROBUST METAL CASE
- \* ANTI-CLICK AS STANDARD
- \* SWITCHABLE ANTI-VIRUS
- \* ENABLE/DISABLE SWITCH
- \* LOW POWER CONSUMPTION
- \* THRU PORT FOR EXTRA DRIVES
- \* 2 YEAR WARRANTY

**2**  
YEAR  
WARRANTY

**FREE**  
UK DELIVERY

**MONEY  
BACK  
GUARANTEE**



Amiga External  
1Mb Floppy Drive  
Code: CU100

**£49.99**

## APOLLO

## A1200 RAM BOARD WITH CLOCK & OPTIONAL FPU

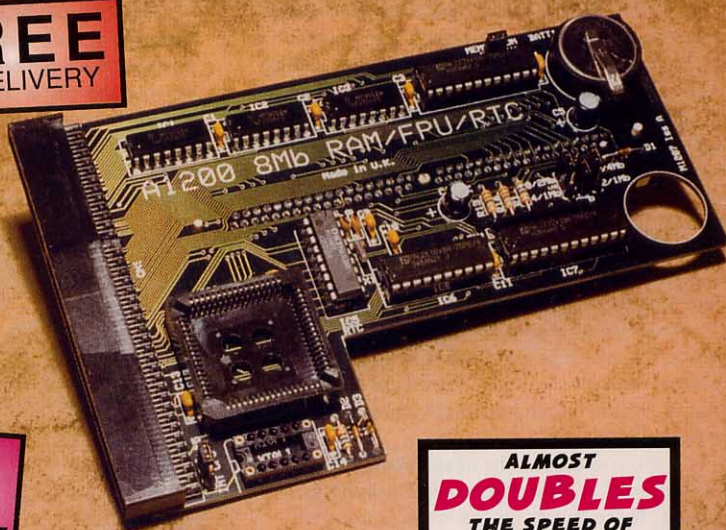
### APOLLO AMIGA 1200 8MB 32-BIT RAM EXPANSION, CLOCK & OPTIONAL FPU FROM WIZARD

- \* WORKS WITH ALL AMIGA 1200s
- \* AVAILABLE WITH 0, 2, 4, 8MB  
32-BIT FAST RAM INSTALLED
- \* USES INDUSTRY STANDARD  
72-PIN SIMMS
- \* OPTIONAL PLCC TYPE FPU  
(FLOATING POINT UNIT)
- \* BATTERY BACKED CLOCK
- \* INSTALLS IN MINUTES
- \* FINGER CUT-OUT FOR EASY  
INSTALLATION
- \* 2 YEAR WARRANTY

**2**  
YEAR  
WARRANTY

**FREE**  
UK DELIVERY

**MONEY  
BACK  
GUARANTEE**



**ALMOST  
DOUBLES  
THE SPEED OF  
YOUR AMIGA**

0Mb RAM	2Mb RAM	4Mb RAM	8Mb RAM
<b>£59.99</b>	<b>£119.99</b>	<b>£179.99</b>	<b>£299.99</b>
Code: CU200	Code: CU202	Code: CU204	Code: CU208



# AMIGA

PRODUCTS  
FROM

## WIZARD DEVELOPMENTS

SALES HOTLINE  
**01322-272908**

**NEW!**



**BABT  
APPROVED**

**FREE  
UK DELIVERY**

### X-LINK TURBO MODEMS

FOR  
ALL AMIGAS

- \* 28.8K OR 14.4K BAUD  
V32, V22BIS, V22, V23, V21
- \* BABT APPROVED  
REQUIRED FOR USE ON A BT LINE
- \* MNP 2-5 AND V42, V42BIS
- \* SYNC & ASYNC OPERATION
- \* GROUP 1-3 FAX TO 14.4K
- \* FULLY HAYES COMPATIBLE
- \* MODE DESCRIPTIVE LEDS
- \* 2 YEAR WARRANTY
- \* SUPPLIED WITH CABLE & S/W  
(N-COMM FOR AMIGA)
- \* GP FAX OPTION FOR JUST £35  
SEND & RECEIVE FAXES DIRECTLY FROM YOUR  
AMIGA - NORMALLY £39.99

14.4k

**£139.99**

CODE  
W504

28.8k

**£249.99**

CODE  
W505

GP FAX - Amiga S/W  
Special price when  
bought with a modem

**£35**

CODE  
W302

**MONEY  
BACK  
GUARANTEE**

**2 YEAR  
WARRANTY**



**2 YEAR  
WARRANTY**

- \* ULTRA SMOOTH 400DPI  
RESOLUTION
- \* MICRO-SWITCHED BUTTONS
- \* AMIGA/ST SWITCHABLE
- \* IDEAL REPLACEMENT FOR YOUR  
NORMAL AMIGA 260DPI MOUSE

**FREE  
UK DELIVERY**

400DPI  
MOUSE

**£9.99**

CODE  
W150

**MONEY  
BACK  
GUARANTEE**

### MICE & MATS

FOR  
ALL AMIGAS

OPTICAL  
MOUSE

**£19.99**

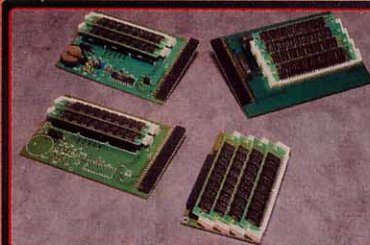
CODE  
W151

HIGH QUALITY  
MOUSE MAT

**£2.99**

CODE  
W152

- \* ULTRA SMOOTH QUALITY  
OPTICAL MECHANISM
- \* NO BALL TO CLEAN/REPLACE
- \* MICRO-SWITCHED BUTTONS
- \* GRID MOUSE MAT INCLUDED
- \* AMIGA/ST SWITCHABLE



- \* HIGH QUALITY - LOW PROFILE  
DESIGNS
- \* LOW CHIP COUNT TO IMPROVE  
RELIABILITY
- \* ALL BOARDS INSTALL IN MINUTES
- \* 2 YEAR WARRANTY

**MONEY  
BACK  
GUARANTEE**

**FREE  
UK DELIVERY**

**2 YEAR  
WARRANTY**

### A500/600 RAM BOARDS

	A500	A500+	A600
NO CLOCK	<b>£19.99</b> CODE W401	<b>£29.99</b> CODE W403	<b>£29.99</b> CODE W404
WITH CLOCK	<b>£24.99</b> CODE W402		<b>£39.99</b> CODE W405

#### DIR. OPUS 5

SIMPLY THE BEST FILE MANAGEMENT  
SYSTEM AVAILABLE ON THE AMIGA.  
VERSION 5 - DUE LATE DECEMBER -  
BREAKS NEW BARRIERS IN POWER  
FEATURES AND OPTIONS.  
CALL FOR VERSION 4 TO 5  
UPGRADE DETAILS.

**£49.99**  
CODE W300

#### EASY LEDGER 2

FULLY INTEGRATED ACCOUNTS  
SYSTEM WITH GENERAL LEDGER,  
DEBTORS LEDGER, CREDITORS LEDGER,  
STOCK CONTROL/PRICE BOOK & JOB  
COSTINGS. IDEAL TO RUN A SMALL  
BUSINESS WITH AN AMIGA.  
WB2+, 2MB AND HARD DISK REQUIRED.  
AMIGA FORMAT GOLD - 94%

**£199.99**  
CODE W301

#### GP FAX

ALLOWS YOU TO SEND AND RECEIVE  
FAXES USING YOUR MODEM. EVEN  
ALLOWS YOU TO PRINT FROM YOUR  
APPLICATION (FINAL WRITER,  
WORDWORTH, PAGESTREAM ETC.)  
DIRECTLY TO THE FAX DEVICE.

MODEM REQUIRED

**£39.99**  
CODE W302

#### HYPERCACHE 2

IF YOU HAVE GOT A HARD DISK YOU  
MUST GET THIS! IT ALLOWS YOU TO  
DEFINE SOME OF YOUR RAM AS A  
CACHE AND CAN INCREASE THE SPEED  
OF HARD DISK READING & WRITING BY  
UP TO 2200%. ALSO WORKS ON  
FLOPPIES & CD-ROMS  
WB 2+ REQUIRED.

**£24.99**  
CODE W303

#### IMAGE FX 2

QUITE SIMPLY THE BEST GRAPHICS  
PROGRAM ON THE AMIGA WITH  
HUNDREDS ON NEW FEATURES LIKE  
LIGHTNING BOLT GENERATORS IN  
VERSION 2! VERSION 1.5 AT A NEW  
LOW LOW PRICE.

VERSION 1.5 **£99.99**  
CODE W304

VERSION 2.0 **£189.99**  
CODE W305

**28 DAY MONEY BACK GUARANTEE**

If you're not 100% satisfied with your purchase, you can return the product within 28 days of receipt for a refund.

## 01322-272908

BETWEEN 9AM AND 6PM, MONDAY TO FRIDAY, TO PAY BY ACCESS OR VISA.  
TO PAY BY CHEQUE OR POSTAL ORDER PLEASE RETURN THE ORDER FORM  
TO - WIZARD DEVELOPMENTS, PO BOX 490, DARTFORD, KENT, DA1 2UH

#### WHY BUY FROM WIZARD ?

- \* LEADING EDGE PRODUCTS AT DOWN TO EARTH PRICES
- \* OUR BUYING POWER ENSURES AGGRESSIVE PRICES AND FAST DELIVERY
- \* WE PROVIDE PRODUCT LIFE-TIME SUPPORT
- \* TRAINED STAFF TO PROVIDE THE HIGHEST LEVEL  
OF SALES AND TECHNICAL SUPPORT
- \* ALL PRICES INCLUDE UK CARRIAGE
- \* THE PRICES SHOWN ARE WHAT YOU PAY

All prices include VAT and carriage within the UK mainland. All products are subject to  
availability. E&OE. Advertised prices and specification may change without notice.  
Please allow 21 days for delivery - subject to stock availability.  
Please allow 7 working days for cheque clearance.

Please send me the following (please quote the codes shown in advert).

Product Code	Description	Price
_____	_____	_____
_____	_____	_____
_____	_____	_____

Name \_\_\_\_\_

Address \_\_\_\_\_

Post Code \_\_\_\_\_ Phone No. \_\_\_\_\_

**CHEQUES SHOULD BE MADE PAYABLE TO WIZARD DEVELOPMENTS.**





**RAMIGA**  
INTERNATIONAL LTD  
TEL. NO. 0690 770304  
FAX NO. 0690 770266



SEE BOTH THE RAPTOR II AND THE RAPTOR PLUS IN ACTION  
ON STAND 32 AT THE WORLD OF AMIGA SHOW

## LIGHTWAVE 3D V3.5

### UNBUNDLED PAL VERSION

Lightwave 3D is a fully featured 3D graphics & animation system. It's renowned for it's easy to use interface, which gives quick access to a wide range of potent features. Using it's spline-based key-frame animation system you'll easily create amazing animations. Render your work in 16.8 million colours for photographic quality output. Use the powerful Modeler to create your own 3D objects. As the 3D program used in many Hollywood TV & Film studios. This really is the professionals choice

**£449**

(NOTE: Lightwave 3.5 requires 2Mb chip RAM - Special offer:  
Lightwave 3.5 + DKB MegaChip .....£569

**DESKSTATION**  
TECHNOLOGY



OFFICIAL EUROPEAN  
DISTRIBUTORS

**Raptor II**

**£Call**

The Raptor II contains one 133 MHZ RISC processor and comes fully configured as a Windows NT workstation, including 17" monitor, 64Mb RAM & SCSI CD ROM. Includes ScreamerNET & Ethernet adaptor.

**Raptor Plus**

**£Call**

The one & only twin RISC processor rendering engine for Lightwave is now available in Europe. At a blistering 266MHZ this will speed up your renders 20 - 30 times. Comes complete with 128Mb RAM, ScreamerNET & Ethernet adaptor.



**Prime Image**

**Passport<sup>TM</sup>**  
4000

**N = w T = k**  
INCORPORATED

**VIDEO TOASTER**

## THE PAL VIDEO TOASTER IS HERE AT LAST!!

By utilising the PRIME IMAGE **Passport<sup>TM</sup>** 4000 system you can now use Newtek's Video Toaster with it's complete set of software video tools in your PAL video editing environment. Utilising a combination of precision timing codes and specially updated Toaster software (included) this expandable system gives you a true PAL input and output from the Toaster with absolutely no loss in picture quality. Included in the Passport are 4 time-base correctors and two inputs & outputs which are either Y/C or composite.

CALL FOR PRICES - (UK & EUROPEAN DEALER ENQUIRIES WELCOME)

<b>ENLAN-DFS</b> - Ethernet based Peer to Peer Networking for the Amiga .....	<b>£299.00</b> (5 user licence)
<b>THE "T" CARD</b> - PCMCIA SANA II Ethernet network card for Amiga 600/1200.....	<b>£299.00</b> <small>(Standard 10 Base T - 10 Base 2 Connectors)</small>
<b>IMAGEMASTER R/T</b> - Pro Quality image processing & morphing package .....	<b>£69.95</b>
<b>PEGGER V2.0</b> - Automatic JPEG compression & decompression of all your picture files .....	<b>£59.95</b>

\* STOP PRESS - A4000 & A1200 TOWER SYSTEMS AVAILABLE - CALL NOW \*

*All prices include VAT (unless otherwise stated). All cheques payable to*

**RAMIGA International Ltd., Stablau 'Rin, Pentrefoelas, Clwyd LL24 0HT.**

*Visa and Access accepted.*



# Sort it!

**Graeme Sandiford** checks out *InfoNEXUS* and wonders whether it could help him sort his life out.

**T**here is one piece of software that you will find on any serious Amiga-user's hard disk, regardless of the use they put their machine to – a file manager. Whether you use your Amiga for producing animations, or for running a small business, you are going to need some method of file control.

InfoNEXUS is just that, a file manager. Of course, we couldn't possibly get through a review of a file manager without mentioning Directory Opus 4, or the forthcoming version 5. Despite a short-lived challenge from DirWork, Opus has had a firm stranglehold on this market for some time and it would be interesting to see if InfoNEXUS will be able to finally break its hold.

The program's developers, Optonica, have been working hard at trying to make it as simple to use as possible. Once it has been installed, the program requires no further configuration; in fact it can be run straight from the floppy it's supplied on. At a price of £30, it also seems that they are targeting InfoNEXUS at people who cannot afford the £50 that Directory Opus will cost them.

It has a similar range of functions as Opus 4, plus a few more. One of its strong points is its operation over a Envoy-based network. It also plays CDXL files, and even emulates a CD-ROM drive if the file is not being played back from one.

As with any program whose purpose is to make your life easier, a good interface is an important feature. Personally, my first reaction on running InfoNEXUS was 'yuck!' But after taking a closer look, beyond the vile colour-scheme, I realised there were a couple of interesting twists.

One major new feature is the Pop and Roll menu system. Instead of pulling down menus from the top of the screen, each time you press your right button a small menu bar appears at the pointer's location – er... that's the Pop. You can then pull down the menu you are after. The Roll plays a part when there are several options available for the same menu item. You can Roll through the available options by clicking on the item with your left button while still holding down the right.

## File-pushing

Of course, you'll want to do more with your file manager than simply push files around your hard disk. It's nice to be able to view images, read documents, play sounds and listen to music without



The file manager InfoNEXUS can be used to display AGA and 24-bit images on any model of the Amiga.

having to switch to a different program. As with Opus, InfoNEXUS can do all of this internally. In addition to that, it can also be used to execute programs and scripts.

However, the feature that had me leaping around the offices and behaving in an entirely unnecessary manner, was the support for DataTypes. One of the things that I find a little annoying when using Opus 4, which is everyday, is switching to an external program to view a JPEG or read an AmigaGuide document. OK, so it is possible to configure a button to launch a viewer, but it is more than a *little* fiddly and is by no means an ideal solution. As more DataTypes become available, this is going to become an even more important feature.

Another unique feature is the recursive option that some functions have. In essence, it's a way of controlling the extent, directory-wise, to which changes are made. For example, as well as being able to rename all the files in a directory, you also have the option to rename any of the files within directories within the source directory. While I'm

talking about renaming files, you can also prefix or suffix the filenames of a selection of files, even adding a sequence of numbers if you wish.

Overall, InfoNEXUS provides pretty much the same number of features as Directory Opus 4. However, it's just not as readily configurable as Opus – you can set almost all of the preferences, but not as easily. Although, one thing that *does* need consideration is that I have been using Opus for years. Which doesn't mean I'm biased toward it, just that it's what I am used to.

There are only two main grumbles that I have about InfoNEXUS – these are that damned purple/blue screen palette, which I have not been able to change yet, and the manual. The second of these is probably the most important, but perhaps not quite as infuriating as the first. The manual was really disappointing – it was more or less simply a long list of the program's features. Although this was split up into a few different topics, it really wasn't enough. It could have done with an index too. If there is one thing I can't stand, it's trudging through a manual when an index would enable me to skip to the important stuff.

Overall, though, I was quite pleased with InfoNEXUS. It avoided completely copying Opus' interface and has incorporated some novel features at the same time. Although I still prefer Opus, InfoNEXUS has earned itself a place on my hard disk for some time. ■

## InfoNEXUS

**Price:** £29.95 (incl. p&p)

**Supplier:** Optonica

**Contact:** 01455 558282

**Verdict:** 88%



Thanks to support for DataTypes, InfoNEXUS can read AmigaGuide formatted files.



# White Knight Technology



2.5% Surcharge On Credit  
Cards. NOT Switch  
or Visa-Delta

THE PROFESSIONAL  
AMIGA SPECIALISTS  
SUPPORTING SERIOUS USERS



**01920-822321**

9.30am - 6pm Monday - Friday

PO BOX 38, WARE, HERTS, SG11 1TX **FAX 01920 822302**



## THE OPALVISION VIDEO PROCESSOR

A "PAL" Alternative To The Video Toaster Has Finally Arrived In The U.K.

We Have A Pre-Production OpalVision Video Processor On Permanent  
Demonstration - Call Now To Book An Appointment.

White Knight Technology Are Now Distributing All OpalVision Products.

## A1200 ACCELERATORS

### GVP A1230 Performance Series II

Two SIMM Slots (GVP's 4 or 16Mb only),  
Clock, Optional 68882 FPU And SCSI Port

WITH 40MHz EC030, 4Mb RAM	£ 299
40MHz EC030, 8Mb RAM	£ 495
40MHz EC030, 4Mb RAM and 40MHz 68882 FPU	£ 399
40MHz EC030, 8Mb RAM and 40MHz 68882 FPU	£ 599
50MHz 030, 4Mb RAM	£ 449
50MHz 030, 8Mb RAM	£ 645
50MHz 030, 4Mb RAM and 50MHz 68882 FPU	£ 549
50MHz 030, 8Mb RAM and 50MHz 68882 FPU	£ 745
GVP A1291 SCSI I/F for A1230 II	£ 59

ALL PRICES INCLUDE VAT

## AMIGA 'S

ALL AMIGA MODELS ARE IN VERY  
SHORT SUPPLY - PLEASE CALL  
FOR PRICES AND AVAILABILITY

## CYBERSTORM

**50MHz 68060**

Accelerator For The Amiga 4000

Only **£ 949**

Full Specification Sheet Available

## LIGHTWAVE 3D V3.5

Official PAL Version FROM NEWTEK

Still Only **£ 449**

## AUDIO PRODUCTS

### SUNRIZE AD516 / STUDIO 16

8 Track Stereo, 16-Bit, Better than CD Quality - Direct to  
Disk Recording, Editing & Playback. Can be used in  
conjunction with Bars & Pipes Professional, the DPS  
Personal Animation Recorder (PAR) and also the new  
Broadcaster Elite from Applied Magic, Inc. (see opposite)

Now **£ 999 Inc. VAT**

## 3.1 UPGRADE KIT

A500/500+/1500/2000 **£ 89.95**

A1200/3000/4000 **£ 99.95**

## HARD DRIVES

### Bare SCSI

350 MB SCSI 3.5"	£ 199
540 MB SCSI2 3.5"	£ 289
1.0 GB SCSI2 3.5"	£ 649
1Gb Quantum Atlas SCSI2 7200rpm, 9ms, 1Mb	£ 949

### SEAGATE BARRACUDA

The Fastest SCSI-2 Drive

( 5.8 to 6.6Mb/s Sustained )

**2.1Gb £ 1149**

**4.3Gb £ 2199**

### A4000 IDE

210 MB IDE 3.5"	£ 149
340 MB IDE 3.5"	£ 169
420 MB IDE 3.5"	£ 189
540 MB IDE 3.5"	£ 249
730 MB IDE 3.5"	£ 329
850 MB IDE 3.5"	£ 349
1.1 GB IDE 3.5"	£ 449

### DRIVES FOR PAR

Micropolis 2210A	£ 629
Micropolis 2217A	£ 929

## FAST SCSI-II CONTROLLER

### FASTLANE Z3

+ Upto 256Mb RAM (A4000)

Now Only **£ 295**

## MEMORY SIMM'S

32MB SIMM-32	£ 1099
16MB SIMM-32	£ 575
8MB SIMM-32	£ 315
4MB SIMM-32	£ 150
2MB SIMM-32	£ 85
1MB SIMM-32	£ 29
GVP SIMM-32's	
4MB	£ 195
16MB	£ 985

## A4000 ACCELERATORS

### WARP ENGINE 28/33/40MHz 68040

4 x 72Pin SIMM Slots for upto 128Mb RAM  
Built in FAST SCSI-II DMA Interface

**28MHz** Version (With 68040/25) **£ 799**

**33MHz** Version (With 68040/33) **£ 899**

**40MHz** Version (With 68040/40) **£1099**

**BLIZZARD 4030 TURBO** 50MHz 68030 +  
MMU, Opt. FPU (For A3000/4000) **£ 209**

Available with **50MHz 68882 FPU** for **£ 279**

**COMMODORE** A3640 Card, 25MHz 68040  
(As Fitted In Amiga 4000-040) S/H **£ 499**

**CYBERSTORM** 040/40MHz 68040 + 32-Bit  
RAM, Opt. SCSI-II (For A4000 range) **£ 769**

**GVP G-FORCE** 40MHz 68040 + 4Mb  
32Bit RAM (Exp. 128Mb), Optional SCSI-II  
DMA Controller (For A3000/4000) **£ 889**

## MONITORS

**PHILIPS CM8833-II 14"** PAL RGB, Y/C &  
Composite Input (0.38 dot pitch, Stereo) **£ 239**

**MICROVITEC CUB-SCAN 1438 14"**  
(Multi-sync, 0.28 dot pitch, No Sound) **£ 295**

**MICROVITEC AUTOSCAN 2038 20"**  
(Multi-sync, 0.31 dot pitch, With DMS) **£1175**

## VIDEO EDIT CONTROLLER - The KRP "TES30"

Amiga Based System Using "Burned In" Timecode. Controls Upto 5 Machines. RCTC  
compatible, SMPTE read & write. GPI Trigger. LANC / Panasonic / RS232 etc. Shot  
Lists, Vision Mixer control, Audio cues, unlimited scene capacity, synchronised audio  
dubbing. Upgradable to upto 8 parallel control industrial machines, RS422 and VITC.

Prices From **£ 549**

Please Call For Full Specifications Of This System



## REMOVABLE DRIVES

**NEW "BOX 230" BERNOULLI** By IOMEGA  
 230MB SCSI-2 INTERNAL DRIVE £ 499  
 230MB SCSI-2 EXTERNAL DRIVE £ 585  
 230MB REMOVABLE CARTRIDGE £ 99

## SYQUEST DRIVES

105MB SCSI INT. 3.5" x 1" DRIVE £ 255  
 105MB SCSI EXTERNAL DRIVE £ 399  
 105MB REMOVABLE CARTRIDGE £ 49  
 270MB SCSI INT. 3.5" x 1" DRIVE £ 415  
 270MB SCSI EXTERNAL DRIVE £ 569  
 270MB REMOVABLE CARTRIDGE £ 59

Syquest 44, 88 & 200Mb Drives Also Available

*All Bernoulli And Syquest Drives Are  
 Supplied With One Cartridge*

## MAGNETO OPTICAL DRIVES

**FUJITSU** 128MB SCSI INTERNAL £ call  
**FUJITSU** 128MB SCSI EXTERNAL £ call  
**FUJITSU** 230MB SCSI INTERNAL £ call  
**FUJITSU** 230MB SCSI EXTERNAL £ 779  
**BOX OF 5** 128MB MO DISKS £ 125  
**BOX OF 5** 230MB MO DISKS £ 199

## DAT TAPE BACKUP

**CONNOR** SCSI DAT - 2Gb, Ext. £1029  
**CONNOR** SCSI DAT - 8Gb, Ext. £1109

## CD ROM DRIVES

**TOSHIBA XM5201B** SCSI-2 (Int.), 3.4 X  
 Speed, Multi-Session (Tray Load) £ 190

## NETWORKING

**AMIGANET Ethernet for A2/3/4000** £ 279  
**ARIADNE Ethernet for A2/3/4000** £ 229  
 Both cards supplied with ENVOY & TCP/IP S/W  
**NOVELL Client software** (single user) £ 229  
**NOVELL Client software** (For 5 users) £ 539

Other Network Software Available On Request  
 Eg. ENLAN, DECNET etc.

## SOFTWARE

**LIGHTWAVE 3D V3.5 (PAL)** £ 449  
**ART DEPT. PRO. V2.5** £ 149  
**REAL 3D V2** New Price £ 329  
**BARS & PIPES PRO V2.5** £ 215  
**MEDIA POINT V3.28** £ 219  
**TVPAINT 2** (Picasso / Retina / Harlequin / EGS) £ 169  
**SCALA MULTIMEDIA 210 (AGA)** £ 145  
**SCALA MULTIMEDIA 300 (AGA)** £ 299  
**SCALA MM 300 + ECHO 100** £ 389  
**SCALA ECHO 100 Edit Controller** £ 139  
**MORPH PLUS** £ 149

Other Professional Software Available On Request

## CPU's & FPU's

**68881** 20MHz PGA £ 24    **68882** 25MHz PGA £ 39  
**68882** 33MHz PGA £ 69    **68882** 50MHz PGA £ 89  
**68882** 25MHz PLCC - For A4000/030 etc. £ 69  
**68882** 33MHz PLCC - For A4000/030 etc. £ 79  
**68882** 40MHz PLCC - For A4000/030 etc. £ 119  
**68040** 25MHz - For Upgrading A4000-LC040 £ 165  
**68030** 25MHz with MMU (PGA Style) £ 59  
**68030** 33MHz with MMU (PGA Style) £ 89  
**68030** 50MHz with MMU (PGA Style) £ 109

## VIDEO PRODUCTS BROADCASTER ELITE

*Previous Version known as Digital BroadCaster 32*

This Zorro III card performs the major functions of a **Broadcast Quality, On-Line, Non-Linear, Digital** Video edit suite (CCIR601 720 x 576 resolution). It provides **REAL-TIME, FULL MOTION JPEG** (50 fields / second) Capture & Compression, direct to hard disk. The video can then be edited and subsequently played back in **REAL-TIME**, at 50 fields/sec in upto broadcast quality - direct to video tape etc. The board has full LTC and VITC timecoding, both read & write (on all connectors - Composite, Y/C and YUV). It also interfaces with the **AD516 Studio 16** audio card from Sunrize Industries to enable simultaneous audio and video editing. It requires an Amiga 4000 with full 68040 processor, large SCSI-2 hard drives, and fast SCSI-II controller.

**Typical System :** (Approx £11,500 inc. VAT)

Amiga 4000-030 (2 +8Mb, 1.0Gb HD)

Broadcaster Elite (Zorro III Card)

Producer (Editing Software)

Warp Engine 28MHz 040 with SCSI-II

2.1Gb Fast SCSI-2 3.5" HD (For Video)

Sunrize AD516 / Studio 16 (Audio Card)

14" MultiSync Monitor (For Amiga)

14" PAL Monitor (For Video)

Image Processing Software

System Configuration & Testing

**GIVING FULL BROADCAST QUALITY, ON-LINE,  
 NON-LINEAR, VIDEO & AUDIO EDITING !**

**FOR MORE INFORMATION, OR TO ARRANGE A  
 FULL DEMONSTRATION, PLEASE CALL**

**Dealers - We are Exclusive UK Distributors**

**GVP TBC Plus** TBC card with £ 685  
 transcoding PAL/SECAM/NTSC etc. £ 595

**GVP G-Lock** External Composite &  
 S-VHS / Hi8 unit. S/W Controlled £ 265

**VLab Motion** Real-time JPEG Compression  
 & Playback Video & Animation card £ 999

**VLab Y/C** Real-time Hi8 digitiser card £ 349

**PICCOLO SD64 ALPINE 64-BIT RTG Card**  
 2Mb, Zorro II/III Auto-Switching £ 339  
 4Mb, Version of PICCOLO SD64 £ 389

**PICASSO II** 2Mb with TVPaint Jr. £ 295

**PAR - Personal Animation Recorder**  
 Output Your 24-Bit Rendered Animations To  
 Video Tape - At Broadcast Quality £ 1849  
 Video Capture Card - For PAR £ 999

## OPALVISION

**Main Board** £ 629  
**Video Processor Upgrade** £ 1149  
**Main Board + Video Processor** £ 1725

**As seen at World Of Amiga, Wembley 12/94**

For further information regarding the Video Processor,  
 Upgrade Procedure, or to arrange a demo, please call.

Customers with vouchers can still upgrade at their voucher  
 price via Centaur Development, California - call for more details

**Dealers - We are UK Distributors for OpalVision**

**Other Professional Video Products Available**

## EMPLANT MAC / PC EMULATOR

Basic Version  
 £ 245

SCSI / AppleTalk Version  
 £ 295

Deluxe Version  
 (SCSI & Appletalk)  
 £ 339

"586" PC Emulation Option  
 £ 99

## A4 SCANNERS

**EPSON GT-6500** 600dpi,  
 24-Bit Colour, with ASDG  
 Software & Cable £ 699

**EPSON GT-8000** 800dpi,  
 24-Bit Colour with ASDG  
 Software & Cable £ 989

## SYSTEM BUILDING

WE HAVE THE EXPERTISE  
 TO BUILD COMPLETE  
 SYSTEMS - PLEASE CALL  
 FOR FURTHER DETAILS

## SPECIALISTS

WE KNOW ABOUT THE  
 PRODUCTS THAT WE SELL,  
 AND ARE MORE THAN HAPPY  
 TO ADVISE YOU.

## SERVICE

WE OFFER SERVICE, AND  
 AFTER-SALES BACKUP THAT  
 IS SECOND TO NONE

## DEMONSTRATIONS

DEMONSTRATIONS OF OUR  
 HIGH END SYSTEMS CAN BE  
 MADE BY PRIOR ARRANGEMENT.

## DELIVERY CHARGES

Express Small £ 6  
 Medium £ 7

For large items, please call.

## SURCHARGE

If ordering with ACCESS or VISA  
 there is a 2.5% surcharge.

**No surcharge for DELTA,  
 CONNECT or SWITCH.**

## HOW TO ORDER

HAVE YOUR CARD DETAILS  
 READY, AND CALL :-

**01920 822321**

**9.30 - 6 Monday - Friday**

**BY POST :-**

**CALL FIRST TO VERIFY  
 PRICE AND AVAILABILITY,  
 BEFORE SENDING YOUR  
 ORDER TO :-**

**"WHITE KNIGHT  
 TECHNOLOGY",  
 P.O. BOX 38,  
 WARE, HERTS.  
 SG11 1TX**



# AMIGA OS 3.1



**A500/A2000**  
**£ 84.95**  
**A1200/A3000/A4000**  
**£ 94.95**

# Picasso II RTG

Hardware of the year 1993 and 1994



Picasso II RTG, the graphics board all others are measured against:

- Graphics board for all Amiga's with Zorro-Bus - Workbench driver to retarget all programs and WB to the Picasso
- Supports up to 256 colors with WB3.1, even on A2000 and A3000
- WB resolutions definable up to 1600 x 1280 pixels
- HiColor (16Bit) and TrueColor (24Bit) graphics: 16M colors!
- Drivers for most graphic programs such as AdPro, ImageFX, ImageMaster, Real3D
- Allows connection of any VGA or Multiscan monitor
- A1084 and A1081 are still usable with a special cable
- Black borders gone forever, takes full advantage of monitor's capabilities
- System-compliant implementation of monitorfile, resolution select table using screen mode-requester
- Monitor-File compliant with System 2.x or higher, resolution selectable using screenmode requester
- View regular Amiga and special PicassoII-RTG screens on same Monitor without changing cables.
- Screen promoter to make older programs work on Picasso
- Draggable screens
- Available with 1MB or 2MB, upgradable from 1MB to 2MB at anytime

**2 MB**  
**£ 299.95**

**1 MB**  
**£ 259.95**

## Ariadne

Don't get overwhelmed with the complexity of setting up a network, use our Ariadne Ethernet card that is compatible with all Amigas that have an available Zorro Slot. This card is not only easy to network - it also equipped with 2 additional parallel ports offering multiple network solutions.

- 10Base-2 (Thin Ethernet, coax-cable) and 10Base-T (Twisted pair, western jacket)
- Socket for Boot-ROM
- SANA-II compatible driver for ethernet and parallel port
- Hook up to two additional Amigas to the parallel ports with Liana
- 32KByte cache to support CPU
- Includes Commodore's Envoy networking software
- English manual

**£ 199.95**

## Liana

Are you in need of a fast and easy connection between two Amiga's? Liana, the low-cost network solution, is exactly what you want! Just plug it in, install the software, and it runs! Nothing could be easier than that. Liana is the network solution for those with a small budget and big needs. You can even share your hard drives and printers.

- For every (!) Amiga from WB 2.0 on with a free parallel port
- Includes cable
- Includes Commodore's Envoy networking software
- English manual
- automatically reconnection after (re-)booting without new startup
- Every machine usable as server and client

**£ 59.95**

## Pablo

The video module, Pablo, expands your Picasso II with two new video outputs. Using the Pablo, you can view your Picasso output on any TV or VCR.

All with quality that you would only expect to see from broadcast video encoders. That is why the Picasso II video encoder module, Pablo, won in the (German) magazine 'Amiga Magazin' (issue 5/94) test for video encoders.

- Three cables included: RCA, S-VHS and SCART
- 5 floppy disks with drivers, animation demos and more
- 24Bit Animation program included

- 15kHz overload protection
- 2 well written manuals
- Plugs onto the Picasso II - no Zorro-Slot required
- Easy installation of video modes

**£ 129.95**

## MainActor Professional

**£ 49.95**

- Open your mind and dreams to the world of great animations, what Picasso users have been doing for a long time with the demo and full versions, you can do, too. MainActor Professional offers a high degree of functionality including multi-platform support (i.e. .AVI and .FLI animation file formats)
- Synchronize animations with sound effects
  - Supports several graphic boards with special loader modules
  - Uses 24Bit files
  - Play animations directly from RAM or from hard drive
  - Convert animations and picture formats
  - Playable within a window on WB
  - Complete ARexx-support
  - Supports 14 different animation file formats
  - Supports Video-For-Windows format
  - Special, fast animation format for Picasso II



**VILLAGE  
TRONIC**

Wellweg 95 D- 31157 Sarstedt - Germany

Tel: +49/(0)5066/7013-10

technical Hotline

Tel: +49/(0)5066/7013-11

Orders

Tel: +49/(0)5066/7013-40

Mailbox

Tel: +49/(0)5066/7013-49

FAX



SILICA ARE NOW IN 18 BRANCHES OF  
**DEBENHAMS**  
SEE BOTTOM PANEL FOR DETAILS

# NEW!

# AMIGA CD<sup>32</sup>

CRITICAL ZONE PACK - WITH 7 CD TITLES

## 32-BIT SYSTEM PLUS! 7 CD TITLES

- 32-BIT POWER
- BUILT-IN DUAL SPEED CD-ROM DRIVE
- 16.8 MILLION COLOURS
- ALSO PLAYS AUDIO CDs
- 11 BUTTON CONTROLLER
- TITLES AVAILABLE FROM £14.99
- OPTIONAL SX1 COMPUTER MODULE
- OPTIONAL FULL SCREEN VIDEO CD MODULE

PACK  
INCLUDES:

CD <sup>32</sup> GAMES CONSOLE	RRP	£249.99
CANNON FODDER	RRP	£29.99
DIGGERS	RRP	£29.99
LIBERATION	RRP	£34.99
MICROCOSM	RRP	£44.99
OSCAR	RRP	£29.99
PROJECT X	RRP	£12.99
ULTIMATE BODY BLOWS	RRP	£29.99
<b>TOTAL VALUE:</b>		<b>£462.92</b>

# £239

INC VAT - CCD 3450

FREE DELIVERY IN UK MAINLAND



MORE THAN JUST A GAMES CONSOLE...

### COMPUTER UPGRADE



Turn the CD<sup>32</sup> into a fully functional Amiga 1200 compatible computer.  
SX1 MODULE KEYBOARD DISK DRIVE  
**£199 £39 £59**  
INC VAT - CCA 0100 INC VAT - PKE 0120 INC VAT - DRI 1159

**CONNECT TO AN AMIGA COMPUTER COMMUNICATOR II**  
Allows the CD<sup>32</sup> to be connected to all Amiga computer systems - offering AGA graphics to older Amiga models, MIDI ports, genlock functions, Photo CD slideshow (even from PC CDs) and much more.  
INC VAT - CCA0110

**S-PORT SERIAL COMMUNICATIONS**  
INTERFACE - CD<sup>32</sup>  
Serial network cable for connecting your CD<sup>32</sup> to an Amiga computer, allows CD-DATA to be transferred to the computer, supplied with CDPI 1 CD (800Mb of software).  
INC VAT - CCA0120

**JOYSTICK CONTROLLER**  
COMPETITION PRO  
Control pad for the CD<sup>32</sup> allowing you to play both game & audio CDs. Features include auto- & turbo-fire, slow-motion switch & eight-way control.  
INC VAT - CCA0540

### 14" STEREO COLOUR MONITOR



Sharpen your output with this high quality 14" RGB & Composite, Stereo Monitor  
RRP **£293.74** **£219** INC VAT  
MON 8833 - Requires cable CAB 5224 - £5.95

**WATCH MOVIES**  
With the addition of a simple plug-in cartridge the CD<sup>32</sup> can be turned into a fully featured Video CD player. Allows you to play blockbusting movies (full screen) with digital quality picture and sound.  
INC VAT  
EXPECTED DURING 1995 - CCA 0320 **£199**

### A COMPLETE RANGE OF SOFTWARE

JUST SOME OF THE 100+ TITLES AVAILABLE ON CD FOR THE AMIGA CD<sup>32</sup>

<b>NEW!</b> Tower Assault ALIEN BREED - Tower Assault ARA 5611 - £29.99	ARCADE POOL ARCADE POOL ARA 7681 - £14.99	BANSHEE BANSHEE ARB 1211 - £29.99	<b>NEW!</b> Steel Sky BENEATH/STEEL SKY ARB 4751 - £29.99	THE BIG SIX DIZZY - THE BIG SIX ARD 4481 - £14.99	ELITE 2 ELITE 2 ARE 4041 - £22.99
UPPER CASE GLORY ARF 3581 - £34.99	GUARDIAN GUARDIAN ARG 8781 - £34.99	AMIGA CD SOCCER ARI 3081 - £24.99	AMIGA CD JETSTRIKE ARJ 3841 - £25.99	PHOTO CD PHOTO CD LITE ARP 3741 - £19.99	TOP GEAR 2 TOP GEAR 2 ART 5421 - £29.99
<b>NEW!</b> Jungle Strike ARJ 7851 - £27.99	LITIL DIVIL LITIL DIVIL ARL 4591 - £29.99	PGA EUROPEAN TOUR PGA EUROPEAN TOUR ARP 3201 - £27.99	PHOTO CD PHOTO CD LITE ARP 3741 - £19.99	TOP GEAR 2 TOP GEAR 2 ART 5421 - £29.99	
RISE OF THE ROBOTS ARR 4641 - £34.99	SIMON THE SORCERER ARS 4351 - £39.99	SUPER STARDUST ARS 7631 - £29.99			

#### OTHER TOP TITLES

CHAOS ENGINE	£21.99
GUNSHIP 2000	£22.99
LABYRINTH OF TIME	£21.99
SEEK & DESTROY	£19.99
SOCCER KID	£19.99
SPEEDBALL 2	£14.99
SUBWARS 2050	£29.99
SUPERFROG	£14.99
THEME PARK	£34.99
VITAL LIGHT	£14.99
WORLD CUP GOLF	£29.99

**THE SILICA SERVICE**  
Before you decide WHEN to buy, we suggest you consider WHERE to buy and protect your investment with a purchase from Silica. With our unrivalled experience and expertise, we will provide all the extra help, advice and new product information you may need both now and in the future. Visit one of our stores, or return this coupon now and begin to experience the "Silica Service".

**Silica**  
NOW IN 18 BRANCHES OF  
**DEBENHAMS**  
STORES NATIONWIDE

- **ESTABLISHED 17 YEARS:**  
We have a proven track record in professional computer sales.
- **PART OF A £50M A YEAR COMPANY:**  
With over 300 staff - We are solid and reliable.
- **EXPERIENCED STAFF:**  
All fully trained in "Customer Care".
- **TECHNICAL SUPPORT HELPLINE:**  
FREE help and advice from a team of experts.
- **A FULL PRODUCT RANGE:**  
All of your computer requirements from one supplier.
- **WE PRICE MATCH:**  
On a "Same product - Same price" basis.
- **FREE CATALOGUES.**
- **PAYMENT:**  
We accept most major credit cards, cash, cheque or monthly terms (APR 23.8% - written quotes on request).
- **VOLUME DISCOUNTS AVAILABLE:**  
Business, Education and Government. Tel: 0181-308 0888.
- **MAIL ORDER:**  
FREE DELIVERY in UK mainland on orders over £40-VAT. Small administration charge (£2.50-VAT) on orders under £40-VAT.
- **21 STORES NATIONWIDE.**  
\*Mini Stores carry a selected range only but products can be ordered in the stores via Mail Order

**MAIL ORDER 0181-309 1111**  
PLUS TECHNICAL AND HEAD OFFICE

SILICA, SILICA HOUSE, HATHERLEY ROAD, SIDCUP, KENT, DA14 4DX			
BRISTOL	Debenhams - (3rd Floor), St James Barton	0117-929 1021	
CARDIFF	Debenhams - (1st Floor), St David's Way	01222 341576	
CHELMSFORD	Debenhams - (2nd Floor), 27 High Street	01245 355511	
CROYDON	Debenhams - (2nd Floor), 11-31 North End	0181-688 4455	
GLASGOW	Debenhams - (5th Floor), 97 Argyle Street	0141-221 0088	
GUILDFORD	Debenhams - (3rd Floor), Millbrook	01483 301300	
HARROW	Debenhams - (2nd Floor), Station Road	0181-427 4300	
HULL	Debenhams - (2nd Floor), Prospect Street	01482 25151	
IPSWICH	Debenhams - (2nd Floor), Westgate Street	01473 221313	
LONDON	Silica - 52 Tottenham Court Road	0171-580 4000	
LONDON	Debenhams - (3rd Floor), 334 Oxford St	0171-580 3000	
LUTON	Debenhams - (1st Floor), Arndale Centre	01582 21201	
MANCHESTER	Debenhams - (3rd Floor), Market Street	0161-832 8666	
PLYMOUTH	Debenhams - (5th Floor), Royal Parade	01752 266666	
ROMFORD	Debenhams - (3rd Floor), Market Place	01708 766066	
SHEFFIELD	Debenhams - (3rd Floor), The Moor	0114-276 8611	
SHEFFIELD	Debenhams - (3rd Floor), Meadowhall Ctre	0114-256 9779	
SIDCUP	Silica - Silica House, Hatherley Rd	0181-302 8811	
SOUTHAMPTON	Debenhams - (1st Floor), Queensway	01703 223888	
SOUTHEND	Keddes - 1st Floor, High Street	01702 462426	
THURROCK	Debenhams - (1st Floor), Lakeside Centre	01708 863587	

**SILICA**  
COMPUTER SHOPPER  
1994 Awards  
WINNER  
Best Software  
Delivery Service

TO: Silica, AMSHP-0495-231, Silica House, Hatherley Rd, Sidcup, Kent DA14 4DX

**PLEASE SEND INFORMATION ON AMIGA CD<sup>32</sup>**

Mr/Mrs/Miss/Ms: ..... Initials: .....

Surname: .....

Company (if applicable): .....

Address: .....

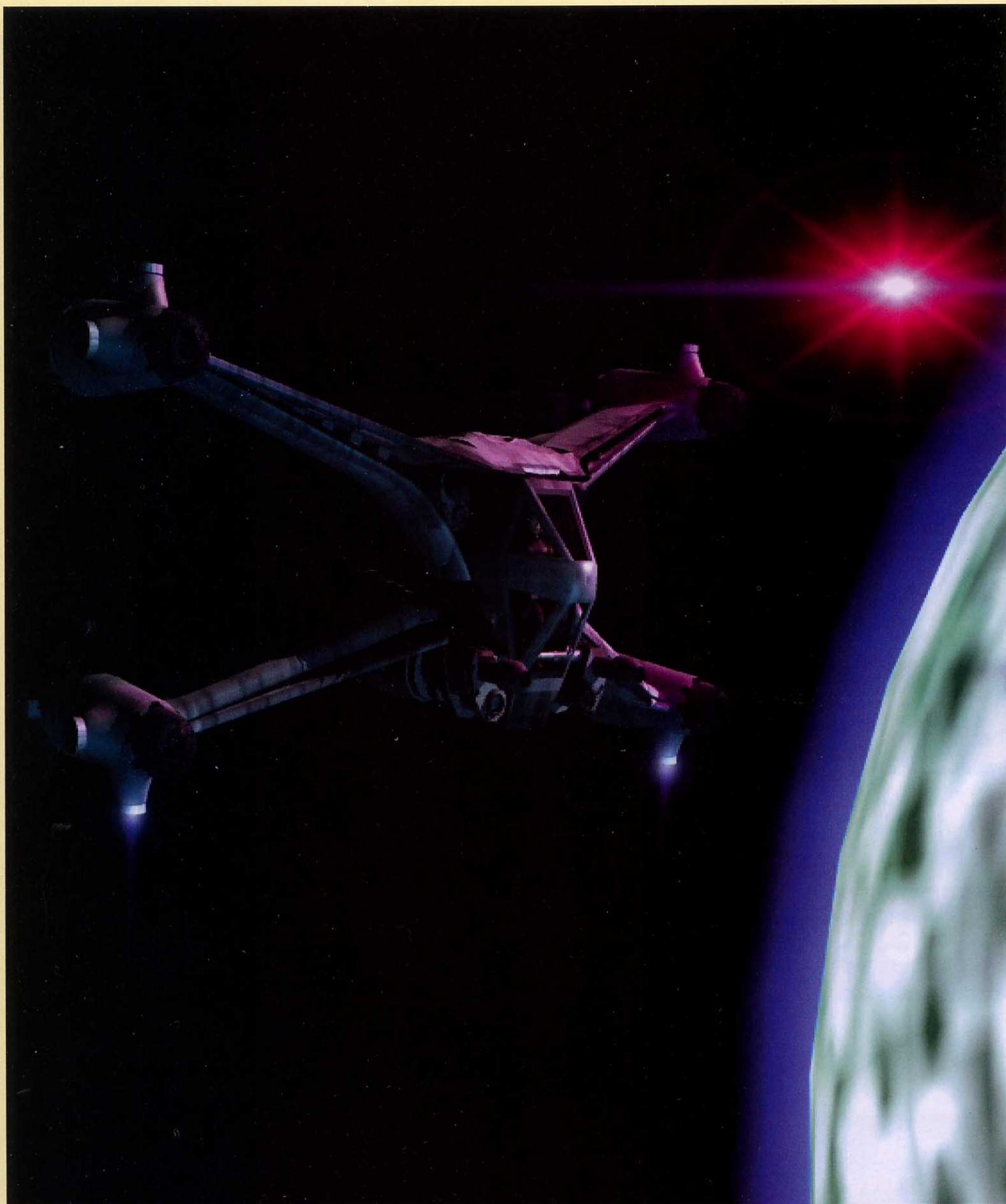
Postcode: .....

Tel (Home): .....

Tel (Work): .....

Which computer(s), if any, do you own? .....





And this month's winner is... er, me. It seems that not enough time has passed for you guys to bring your artistic talents to bear on creating your own images. So, you have another month to impress your friends and win £25 worth of stuff. Just render or draw a picture, save it as a JPEG and send it to me: **Graeme Sandiford, Future Publishing, 30 Monmouth St, Bath BA1 2BW.**



# AMIGA

## ANSWERS



*Hello, and welcome once again, to the area of Amiga Shopper where you can turn to find all the answers to questions concerning your Amiga. It's my privilege, as Amiga Shopper's technical writer, to make sure that not one of your problems is left unsolved. Let me present this month's team of Amiga experts. Jeff Walker is our desktop publishing, fonts and printer correspondent. Gary Whiteley is an expert on video*

*applications and graphics. Finally, we've got a man you can rely on when it comes to operating systems programming and music making on your Amiga – Paul Overaa. So, stop worrying.*

### Answers contents

**If you are looking for a solution to a particular problem, why not try using this handy index to the questions in this issue. It's arranged by topic, so if you are being kept awake at night by a noisy hard drive, then be on the lookout for any mention of hard disks.**

Vista Pro	63
HP DeskJet	64
Compugraphic Fonts	64
Video Toaster	64
Imagine	64
Monitors	67
Midi Files	67
RGB Monitors	69
Microvitec	69
Screenmodes	69
Locale	69
Keyboards	69
Disk drives	71
Interesting idea	71
A570	71
A1200 CD-ROM drives	71
A4000	71

### Weird Vistas



I have a problem with a piece of software I recently purchased – Vista Pro 3.0 (v3.05). I'm using it on an A1200 fitted with a Blizzard 1220/4 28Mhz turbo card fitted with a 33Mhz 68882 FPU and an 80Mb Western Digital hard drive.

When I try to run one of the animations (rendered using one of the supplied scripts), they seem to render OK, but when I come to play them back with the supplied Viewer software, the colours are totally corrupt, except for the first frame, which looks fine.

I read somewhere that sometimes the MaxTransfer rate of the hard drive being set too high can give problems similar to those which I'm experiencing. The advice was to remove one of the 'Fs' from the rate using HDToolBox. The example shows the transfer rate as ending in a series of 'Fs' – but HDToolBox tells me that my transfer rate is 0x1fe00, which isn't the same. So I don't think I can remove an 'F' as advised. Do you have any idea what might be going wrong to cause these problems?

Incidentally, Video Tracker now locks the Amiga out when I try to play a Video Module. It didn't do this before I installed the Blizzard card. Do you think that the two problems may be connected?

**Andrew Smith**  
Stechford, Birmingham

*Initially, I thought that this might be a simple palette locking problem, since this will exhibit symptoms similar to those you describe. What happens in such cases is that each frame of an animation will be rendered and saved with its own unique colour palette. When the resulting animation is played back only the first frame will look right because the player program's palette is derived only from this image. If the other frames aren't remapped to match the palette of the first frame then the result is a mess.*

*Unfortunately you've not provided any details about what modes and resolutions you've been trying to render in, so I can't attempt to recreate the problem you describe, though I did do a few test-renders myself and had no troubles at all.*

*Before you get involved with possible hardware paranoia (even though it could well be out to get you) just double-check that you've not been trying to render the images in DCTV or any other non-standard format. You could also try different render formats (32 colour lo-res, HAM etc) when you make your VAnims and see if they cause any differences. Perhaps there's a memory shortage going on which could account for your problems, and this might prove it.*

*There are a couple of things you could try before you start hacking at your system settings. The first is to render the animation to RAM; though you might have to modify the script to produce less frames (and hence a smaller animation file), or set the graphics size so that the images are rendered at a smaller size.*

*The second thing is to remove the Blizzard card and try the process again, this time making allowances for the reduced memory. This of course depends whether Vista will run in the 2Mb of memory you'll have left. I'm not sure whether it will or not, so you'll just have to try it. In any event, if the sequence plays back properly from RAM: or without the Blizzard, then it's most definitely time to start worrying.*

*Whilst the problem with Video Tracker may be annoying, it's difficult to know whether it is connected with the Vista problem. Some programs just don't like certain accelerators and Video Tracker may be one of those programs*



which is somehow incompatible with the Blizzard card.

On the other hand, you may well be right that the problem lies with your hard drive and its transfer rate. Which leaves me with a problem, because such things are beyond my Amiga knowledge and I'm afraid I can't be of any further help. I'm sure that if any reader has a clue about what's going on here, or have had the same problem, then they'll write and let us know what the solution might be. **Gary**

## No DeskJet colour



I have a Hewlett-Packard DeskJet 550C attached to my A500 (Workbench 1.3.2) and it will not print full colour pictures, only black and white.

I can get colour output if I use the HP\_PaintJet driver, but the pictures are very small and the colours are not correct.

**R T Jones**  
Pengam, Gwent

The news is good and bad. The good news is that if you contact a PD library, you will be able to get a few DeskJet printer drivers that will print in colour from your 550C. The bad news is that modern printers like the colour DeskJet, Epson Stylus, Canon BubbleJets, high-res laser printers and so on, are not properly supported by the Amiga's outdated printing preferences system, so controlling things like colour and getting the best possible output is impossible, unless you buy some third-party printing software like Studio Professional II.

The trouble is, modern software like Studio demands a more modern operating system (OS) than the one you are using. Without upgrading to OS 3.1 or buying a more modern Amiga, I'm afraid you will simply have to put up with relatively poor output from whatever PD printer drivers you can find. **Jeff**

## It just stopped working



I installed some Compugraphic fonts using Fountain and I used these for many months. Then, a while ago, I found that I could no longer use them and Fountain no longer works, putting up an error message: "Couldn't load \_bullet\_outlines/iff.uc". I have checked my backup, original fonts disk, and all my other discs, and, believe me, it is missing. Help!

**Daniel Dobson**  
London

Don't know why you are getting that error message because both Fountain and Intellifont (that's the Workbench 3 version of the same program) look for the "iff.uc" file in "FONTS: \_bullet" not "FONTS: \_bullet\_outlines". I just looked at my standard Workbench 2 and 3 Fonts disks and said file is there in said drawer.

The best thing you can do is simply re-install Workbench and the Compugraphic fonts system on to your hard disk. You won't need to back up anything, as all this will do is re-install the original system files; nothing will be destroyed.

**Jeff's Rule Of Thumb #1:** Whenever anything that used to work stops working, remove absolutely all PD programs from your boot sequence (no matter how much you like them) and then re-install Workbench. **Jeff.**

## Toaster, Toaster, wherefore art thou?



Can you please inform me as to who the registered distributor of NewTek's Video Toaster in the UK is, as well as of LightWave 3D?

**James Rothschild**  
Bradford, W. Yorks

As far as LightWave 3D (the standalone version) is concerned the master distributor in the UK is DPS (☎ 01252 718300). They supply other companies, such as Premier Vision and Ramiga International. For the Video Toaster, try calling Ramiga (☎ 01690 770304).

If you wish to contact NewTek directly in the USA, call them on ☎ 0101 913-228-8000 or fax 0101 913-228-8099. **Gary**

## Give me five



- 1) How do I convert fonts from other formats to use them in Final Writer?
- 2) Is it possible to get a book which shows me examples of fonts and clip art before I buy them?
- 3) Why do screen fonts in Protext and even on my Mac Powerbook look so much clearer than those in Final Writer?
- 4) What packages would you recommend in order to process (enhance, that is) and prepare imported black and white photos from a Mac for printing in black and white or greys on a Canon BubbleJet?
- 5) I intend to buy more memory – at least 4Mb. Will this mean that I will be able to use the black bands which appear on either side of useable screen on my monitor?

**Pete Scott**  
Warminster, Wilts

1) Buy TypeSmith.

2. If you are talking PD fonts and clip art, the short answer is no, although LH Publishing (☎ 01908 370230) has published one book (called *Fonts & Clip Art*) that contains some of the more popular fonts and clips that are doing the rounds. Bit of a pricey catalogue, though, at £9.95. EMC (☎ 01255 431389) does a decent information pack for £1 and a 25p stamp, which, while not a book, is more comprehensive.

3) Because Final Writer is using scalable fonts and for the sake of greater display speed it is scaling the fonts roughly. To scale them accurately would take so long (even on a very fast Amiga) that typing would be difficult. Protext uses bitmapped fonts, which can be displayed very quickly indeed, but which cannot be scaled very well without them looking even uglier than rough-scaled scalable fonts.

4) If you don't have at least 10Mb of total memory, I wouldn't like to recommend any

package to you. If you did have the memory, I'd highly recommend ImageFX 2, which is the nearest thing the Amiga has to the famous Adobe Photoshop. Or, if you're on a tight budget, Photogenics (but don't expect the earth for £55).

5) No, this has nothing to do with memory. In some screen modes on almost all monitors, parts of the visible screen are not useable. Fact of life. It has to do with frequencies and stuff. **Jeff**

## Imagine that



After reading the recent AS guide on how to make a LightWave 3D model, I decided to attempt it in Imagine 2. I had dabbled in Imagine before, but gave up due to the amount of time it took. Anyway, all was well in the model-making and I made a decent copy of the ship, complete with grouped arms. That was hard enough (no instructions), but the arms work OK, even in the Cycle editor (it took a while to work out how the Cycle set-up works).

The problem was the brush mapping. I followed the guide and grabbed a screen shot of the side of the ship and drew my colour and diffusion maps. I then flat X/Z mapped the colour map. It did not work. Well, it took me four hours to realise that Imagine had mapped it to the back of my model (it faces into the screen in the Front window), so I adjusted the axis so the map went along the right side of the ship and all was well. Now my questions.

1) When I made my brushmaps in DPaint IV, I picked them up as a brush. The black background (Colour 0) was not picked up (I even tried AutoTransparency). Now when I map it on to the ship, the background colour covers the areas where I wanted the Imagine attribute colour (green) to show through – see the IFF files on my disk for more information... I tried changing the background colour to white, but, alas, with no luck.

I've included the following images on disk, in case they may be helpful to answering my question:

Colour.map – Shows my colour map  
Ship.iff – Shows Quickrender of basic ship  
Filter.iff – Shows my Filter map  
Brushmap.iff – Tries to explain question 1  
Quick\_1.iff – Quickrender Trace of my ship without the brushmaps. (low-res)

2) What does Imagine use in place of LightWave's diffusionmap? I thought it might be a filter map, but I can't get the effect that the guide gets. All I get is a transparent-looking ship. Can Imagine do this effect?

3) In an Imagine animation, how do I get a rotating gun that is grouped to a spaceship that's moving along a path to track another object going along a different path? (Catch my drift?)

4) When I have created a cycleable object and I change it in the Detail Editor and then put it back into the Cycle Editor, it sometimes comes up with an error "Not a 'proper' animated object".

What does it mean and how can I avoid this? I have tried ungrouping the object then re-grouping it and selecting Cycle set-up in the ▶ 67



# QUALITY PERIPHERALS FOR THE AMIGA



Designed to bring you high quality and performance at affordable prices, Amitek peripherals offer outstanding value-for-money. They are built to ensure easy fitting and trouble free operation - making them a pleasure to use. Amitek products are also thoroughly tested and very reliable, so reliable that we are pleased to offer a full two year warranty on most of the Amitek products detailed here.

## AMITEK HAWK RAM UPGRADE & MATS ACCELERATOR OPTIONS FOR THE AMIGA 1200



- Plugs straight into A1200 trapdoor - No soldering required
- Upgradeable FAST RAM board to 1, 2, 4 or 8Mb
- Uses industry standard socketed SIMMs for easy upgrades
- Optional Floating Point Unit - 33MHz or 40MHz PLCC 68882 co-processor
- Comprehensive manual with illustrations
- Works with all A1200 and A1200HD computers
- Does not invalidate your A1200 warranty
- 2 year warranty

1Mb No FPU	2Mb No FPU	4Mb No FPU	8Mb No FPU
INC VAT - RAM 1210	INC VAT - RAM 1220	INC VAT - RAM 1230	INC VAT - RAM 1240
<b>£99</b>	<b>£129</b>	<b>£189</b>	<b>£329</b>

**OPTIONAL FLOATING POINT UNITS**  
Available with above RAM upgrade boards

33MHz PLCC FPU + CRYSTAL	INC VAT - FPU 1250	<b>£59</b>
40MHz PLCC FPU + CRYSTAL	INC VAT - FPU 1255	<b>£99</b>

## AMITEK MAMBA MODULATOR FOR ALL AMIGAS



The Amitek Mamba, External Modulator, makes an ideal replacement modulator for all Amiga owners. Everything needed is supplied. Like all Amitek peripherals, it comes with an easy to follow manual.

2 Year Warranty

£34 INC VAT - MDA 4200

## 1Mb SONY 3 1/2" DELUXE FLOPPY DRIVE FOR ALL AMIGA COMPUTERS



'Amitek's new disk drive combines an elegant design, high build quality and smooth performance in a very affordable package. Highly recommended.' Jason Holborn - Leading Amiga Journalist

**DELUXE FEATURES**  
The Amitek drive has many deluxe features not included in other drives - check out the competition!

**ANTI-CLICK**  
This feature stops your drive making whirs and clicks when the drive is empty and searching for a disk.

**ANTI-VIRUS**  
This switchable mode stops track 0 viruses infecting the disk while in the drive. Unlike many other drives which have virus killers, this mode can be disabled, allowing some fussy copy protected software to run.

	ANTI-CLICK	ANTI-VIRUS	ROBUST STEEL CASE	QUALITY SONY MECHANISM	TOP RATED CU-AMIGA MAY '94 90%	2 YEAR WARRANTY
AMITEK	✓	✓	✓	✓	✓	✓
CUMANA	-	-	-	-	-	-
ZAPPO	-	-	✓	-	-	-

- High Quality 3 1/2" Sony Mechanism
- 2 Year Warranty
- STRONG METAL CASING
- BUILT-IN ANTI-CLICK FEATURE
- SWITCHABLE ANTI-VIRUS MODE
- ENABLE/DISABLE SWITCH
- 75MS ACCESS TIME
- DAISY CHAINABLE VIA THRU PORT
- LOW POWER USAGE
- EXTERNAL PSU NOT REQ'd

**EXTERNAL DRIVE**  
**£59**  
INC VAT - DRI 1159  
**FREE DELIVERY**  
IN UK MAINLAND

## AMITEK FUSION VIDEO GENLOCK FOR ALL AMIGA COMPUTERS



- High Quality Graphics And Video Mixing Desk
- FREE Scala HT100 Program Disk
- Add Titles And Special Effects To Videos
- Ideal For Home And Semi-Professional Users
- Supports All Standard Amiga & AGA Graphics
- Input And Output Composite Video Signals
- Switches Between Video Only, Computer Only And Mixed Graphics
- Hardware Fade Between Graphic And Video
- RGB Thru - Saving The Genlock From Being Unplugged When Not In Use
- Optional Chroma Key Unit Available Early '95
- Comprehensive 16-Page Manual Plus Full Colour Sleeve

**FREE!**  
SCALA HT100  
HOME VIDEO  
TITLING  
PROGRAM  
WORTH  
**£49**  
INC VAT

**GENLOCK**  
**£99**  
INC VAT - VID 2100  
**FREE DELIVERY**  
IN UK MAINLAND

## AMITEK RAM UPGRADES FOR A500/A500PLUS/A600 - 2 YR WARRANTY

CODE	DESCRIPTION	INC VAT
RAM 0505	A500 - 512K (No Clock)	£20
RAM 0510	A500 - 512K (With Clock)	£25
RAM 0520	A500PLUS - 1Mb RAM	£30
RAM 0605	A600 - 1Mb (No Clock)	£30
RAM 0610	A600 - 1Mb (With Clock)	£40

## AMITEK POWER SUPPLY FOR A500/A600/A1200 - 1 YR WARRANTY

This power supply is an ideal replacement unit, which can deliver 1.0 Amp on 12V and 4.5 Amps on 5V. More than enough power for a seriously expanded Amiga!

POW 0510 AMITEK POWER SUPPLY UNIT **£29** INC VAT

## AMITEK LOADER 1Mb INTERNAL FLOPPY DRIVES FOR AMIGA 500/500PLUS & AMIGA 600/1200



These internal Amitek Loader replacement drives are ideal for users who wish to replace their existing internal drive.

The packs feature a high quality internal 1Mb, 3 1/2" drive mechanism for the Amiga 500/500PLUS or Amiga 600/1200. All you need to fit your drive is included, plus easy to follow fitting instructions and 12 months warranty.

A500/A500PLUS INTERNAL DRIVE <b>£34</b> INC VAT - DRI 3600	A600/A1200 INTERNAL DRIVE <b>£44</b> INC VAT - DRI 3605
---	--

**17 YEARS SERVICE TO YOU**

## THE SILICA SERVICE

Before you decide WHEN to buy, we suggest you consider WHERE to buy and protect your investment with a purchase from Silica. With our unrivalled experience and expertise, we will provide all the extra help, advice and new product information you may need both now and in the future. Visit one of our stores, or return this coupon now and begin to experience the "Silica Service".

# SILICA

NOW IN 18 BRANCHES OF  
DEBENHAMS

STORES NATIONWIDE  
13150901-5

- ESTABLISHED 17 YEARS:**  
We have a proven track record in professional computer sales.
- PART OF A £50M A YEAR COMPANY:**  
With over 300 staff - We are solid and reliable.
- EXPERIENCED STAFF:**  
All fully trained in 'Customer Care'.
- TECHNICAL SUPPORT HELPLINE:**  
FREE help and advice from a team of experts.
- A FULL PRODUCT RANGE:**  
All of your computer requirements from one supplier.
- WE PRICE MATCH:**  
We will normally price match any local high street store within a 3 mile radius on a 'Same Product - Same Price' basis.
- FREE CATALOGUES:**
- PAYMENT:**  
We accept most major credit cards, cash, cheque or monthly terms (APR 23.8% - written quotes on request).
- VOLUME DISCOUNTS AVAILABLE:**  
Business, Education and Government. Tel: 0181-308 0888.
- MAIL ORDER:**  
FREE DELIVERY in UK mainland on orders over £40-VAT. Small administration charge (£2.50+VAT) on orders under £40-VAT.
- 21 STORES NATIONWIDE:**  
\*Mini Stores carry a selected range only but products can be ordered in the stores via Mail Order

MAIL ORDER 0181-309 1111 PLUS TECHNICAL AND HEAD OFFICE			
SILICA, SILICA HOUSE, HATHERLEY ROAD, SIDCUP, KENT, DA14 4DX			
PLUS BRANCHES AT:			
BRISTOL	Debenhams - (3rd Floor), St James Barton	0117-929 1021	
CARDIFF	Debenhams - (1st Floor), St David's Way	01222 341576	
CHELMSFORD	Debenhams - (2nd Floor), 27 High Street	01245 355511	
CROYDON	Debenhams - (2nd Floor), 11-31 North End	0181-688 4455	
GLASGOW	Debenhams - (5th Floor), 97 Argyle Street	0141-221 0088	
GUILDFORD	Debenhams - (3rd Floor), Millbrook	01483 301300	
HARROW	Debenhams - (2nd Floor), Station Road	0181-427 4300	
HULL	Debenhams - (2nd Floor), Prospect Street	01482 325151	
IPSWICH	Debenhams - (2nd Floor), Westgate Street	01473 221313	
LONDON	Silica - 52 Tottenham Court Road	0171-580 4000	
LONDON	Debenhams - (3rd Floor), 334 Oxford St	0171-580 3000	
LUTON	Debenhams - (1st Floor), Arndale Centre	01582 21201	
MANCHESTER	Debenhams - (3rd Floor), Market Street	0161-832 8666	
PLYMOUTH	Debenhams - (3rd Floor), Royal Parade	01752 266666	
ROMFORD	Debenhams - (3rd Floor), Market Place	01708 766066	
SHEFFIELD	Debenhams - (3rd Floor), The Moor	0114-276 8611	
SHEFFIELD	Debenhams - (4th Floor), Meadowhall Ctr	0114-256 9779	
SIDCUP	Silica - Silica House, Hatherley Rd	0181-302 8811	
SOUTHAMPTON	Debenhams - (1st Floor), Queensway	01703 223888	
SOUTHEND	Keddies - (2nd Floor), High Street	01702 462426	
THURROCK	Debenhams - (1st Floor), Lakeside Centre	01708 863587	

**SILICA**

To: Silica, AMSHP-0495-213, Silica House, Hatherley Rd, Sidcup, Kent, DA14 4DX

## INFORMATION ON AMITEK PRODUCTS

Mr/Mrs/Miss/Ms: ..... Initials: .....

Surname: .....

Company (if applicable): .....

Address: .....

Postcode: .....

Tel (Home): .....

Tel (Work): .....

Which computer(s), if any, do you own? .....

213L



# WANTED



## REWARD £££'S IF ACCEPTED

Paradigm Data Systems Ltd, Publishers of specialist business software, are launching a new company dedicated to Amiga products. We urgently require unpublished original software for professional evaluation. If you have written an original Amiga game, or creative application package, please send it to



*NICK CREW, PRODUCT DEVELOPMENT MANAGER, PARADIGM DATA SYSTEMS LTD,  
PARADIGM HOUSE, ST. TEGFEDD CWRT, LLANDEGVETH, NR. CAERLEON, GWENT NP6 1HX*

### WE WANT

- ★ Original unpublished games, serious or creative applications.
- ★ Supplied on a self-booting disk together with full instructions.
- ★ Hardware requirements of your program.
- ★ Your name, address and telephone number.

### WE DON'T WANT

- ★ Anything that has previously been released, either through commercial, shareware or PD channels.
- ★ Anything that isn't your own work.
- ★ Clones of existing products (unless your work is at least of a comparable standard).

Please enclose a stamped, self-addressed envelope if you would like your software returned with our appraisal of your work.



- 64 ▶ menu, but it still won't let me load the object in. HELP! An answer in your magazine would be appreciated.

**Dave West  
Sunderland**

From your comments I see you've already discovered that Imagine doesn't follow the generally accepted convention of Y being the vertical axis! Instead Impulse, in their own idiosyncratic way, have, ever since they launched Imagine's distant predecessor "Silver", transposed the Y axis for the Z axis.

Now let's answer your questions in the order you asked them.

1) What you need to do here is to ensure that the "Use Genlock" button is activated when you set up your brushmap (you'll find it in the requester where you set the type of wrap, etc). All the parts of your brush map which contain Colour 0 will then become invisible, leaving only a 'decad' of your brush mapped on to the object's surface. Note that it is CRUCIAL that when you pick up the brush you make certain that you also pick up the Colour 0 colour (by specifying a colour which isn't used in the image as the 'background' palette colour in DPaint), otherwise this effect won't work. I'd advise you to stick to a Colour 0 of R0,G0,B0 to be certain that the genlock effect will work.

Some opinions say that the Full Scale setting should also be set to 240 (instead of 255), but it doesn't seem to make any difference to me. It's also worthwhile checking that your COL0 setting in Imagine's Preferences is set to the same as your Colour 0 colour, but, again, changing these settings didn't make any difference in my tests. However, I did this using both Imagine 3 and, later, Imagine 2 and in both cases the Genlock button works identically.

2) There's no direct equivalent to LightWave's diffusionmap in Imagine 2. Imagine 3 has Reflectivity mapping, which can produce something similar, but it really doesn't have the same effect.

3) Now this is a tricky one. Imagine 3 has a new command in the Action Editor - Associate - which makes the movement you require fairly simple to create, but unfortunately Imagine 2 doesn't have this.

To see if I could figure out your problems, I put Imagine 2 back on to my Amiga (I've not used it for over a year now as Imagine 3 is much better - why not consider upgrading? The manual is a big improvement too!) and tried out several ideas which came to mind. The only (and barely adequate) solution I came up with is to split the gun barrel from your ship object and save it as a separate object.

Then, when you've made your ship's path, clone it and offset it so that the barrel moves along this path (it won't be easy to get the barrel's path in just the right place though). Make sure that the barrel is "Aligned" to the object you wish to track (using the barrel's Align time line in the Action Editor) and also ensure that the Y axis follows the length of the barrel when you save it from the Detail Editor.

While we're on this topic, you might feel happier knowing that LightWave can't do what you're asking either, though it's much easier to get the effect you're asking for in LightWave by

parenting the gun barrel to the ship and then manually aligning the gun to track the target over a series of keyframes.

4) Again, Imagine 3 has forged ahead and Cycle objects are no longer the best way to do such things - and I'm glad! Cycle objects always were a real pain to work with and even when you think you know what you're doing, things seem to go wrong for no reason. The new States in Imagine 3 are much simpler and far more effective to use.

The best advice I can give to this question is to get hold of an Imagine 2 manual and study it well, experiment long and hard and finally see if you can get Cycle objects working successfully. As I said, it really is a hit and miss affair and I wish you the best of luck.

One final point. Software like Imagine and LightWave can be very difficult to use successfully without a manual. Whilst Imagine 2 was a great bonus for Amiga Format readers, the obvious idea behind it being easily and freely available was to get folks to upgrade to Imagine 3 and benefit from the new features and new manual whilst spending money into the bargain.

If you want to do more complex work (such as you've described in your letter), then you really should consider buying Imagine 3. Emerald Creative have been selling it for under £100, which is really a very good price, so, if you can afford it, go for it. If not, try to find an Imagine 2 manual or, better still, Steve Worley's excellent (though now rare as hen's teeth) "Understanding Imagine 2" publication. **Gary**

## Monitors again...



**Monitors**

I have a Mitsubishi SVGA colour monitor (model FA3415ATKE) with a 15-pin connector. Is there any way I can use this with my Amiga 600? I know that a VGA adaptor exists for the A1200, but have not seen anything for the A600.

If such an item exists would you please tell me where I could purchase it from?

**Alan Walker  
Wirral, Merseyside**

Unusually for a query of this kind you be glad to hear that I have reasonably hopeful, if not exactly good, news.

After speaking to Mitsubishi's Technical Support I can tell you that your monitor will (in theory, at least) sync down to 15.7KHz. So, if you're lucky and the spec of the monitor is slightly out (i.e. if it really syncs to 15.6KHz or less), it might just be possible that the monitor will work with your A600. I say "possible" because there can be some leeway here and it may be that the sync rate doesn't quite get down as far as it might (the tech support guy was at pains to stress this), so it could be that the monitor won't be able to lock on to your Amiga's RGB output after all, but it's certainly worth a try.

The pin connections on the monitor which you'll need to connect to your Amiga's RGB port are as follows:

Amiga	RGB	Monitor
3	RED	2

4	GREEN	4
5	BLUE	10
11	HSYNC	9
12	VSNC	8
18	GROUND	6

If the monitor doesn't work at standard RGB PAL Amiga levels, then I'm afraid there's not much left to be done as there are no de-interlacers for the A600 available, as far as I am aware. A de-interlacer would be needed to increase the video frequency to around 31KHz so as to drive the monitor correctly. On the other hand, this monitor will probably work nicely with an A1200, should you ever choose to buy a better Amiga. **Gary**

## Voice layering



When recording from a MIDI keyboard, how do you layer different voices? My sequences play back using whatever voice is currently selected.

Also, is it possible, with Music-X 2.0, to replay music from disk which has been recorded via the mother keyboard without the mother keyboard being available. It seems of limited use to me if you have to carry your keyboard around in order to demonstrate your efforts to friends.

One last thing: I've got a Yamaha PSR47 and a Datel MIDI interface. When I try to record things with Music-X, OctaMED or Sequencer One, I suddenly find that certain notes won't play. There's no telling when this might happen and it happens even when playing single note melodies. I have changed the MIDI interface and the MIDI leads, but the keyboard still keeps going quiet on me?

**D.F. Cussell  
Margate, Kent**

The most likely reason for your MIDI sequences playing back using the currently selected sequencer voice is that your sequences are not telling the synthesiser which voices to use in the first place. In other words, there are no program change commands in the sequences. To create layered voice effects with a sequence recorded on a particular MIDI channel, all you have to do is copy the sequence as many times as you want different voices and then re-channelise them so that each copy plays on a different MIDI channel.

Having done that, add a program change command to the front of each version of the sequence so that the voices you require are selected. If necessary, you can enhance these resultant layering effects by slightly off-setting the timing of one track, or by transposing one or more tracks up or down by an octave. Layering is normally used to 'thicken up' weak-sounding voices, but there is another way of doing this - with synthesisers that allow a combination of separate voices to be assigned to a particular MIDI channel.

Basically, you set the synthesiser up so that a suitable 'voice group setting' is selected for a chosen MIDI channel and then assign that group setting to a single program change command. Although this is less flexible than the



# PROTEXT 6.5 at new Low Price £74.95

Professional Word Processing for your Amiga

## Now with Auto-Correct and Preview

- Auto-Correct** \* Learn from your typing errors and next time correct them automatically  
\* Abbreviations expanded as you type \* Capitalises sentences and proper nouns
- Preview** \* Shows a full page just as it will appear \* Works in any screen mode  
\* Shows different size fonts, bold, italic, underline, sub/superscript and graphics
- Features** \* Unrivalled printer support including PostScript (over 400 printers listed)  
\* Fast spelling checker and thesaurus \* Graphics import and viewer  
\* Flexible find and replace function works across multiple files \* Hyphenation  
\* Styles with scalable font and colour support (printer permitting)  
\* Index/contents \* footnotes \* indent tabs \* file sort/conversion \* add column  
\* Multi-column printing \* up to 36 documents open \* programmable mail merge  
\* Workbench New Look throughout, Public screen support, ARexx
- Value** \* Last year Protext cost £152.75. Today, though it is better than ever, it can be yours for just £74.95. Price includes two months' free technical support.

"Unbeatable for speed and text editing options"

AMIGA SHOPPER, Jul 1994

"An excellent tool ... fast and easy to use"

AMIGA FORMAT, Mar 1994

Protext 6.5 **£74.95**

## Exfile, the Magazine for Protext users

Exfile is now the essential read for all Protext owners. Relaunched and being edited by Arnor, Exfile includes

- \* Authoritative articles by the programmers of Protext
- \* Contributions by knowledgeable Protext enthusiasts
- \* Readers technical queries answered
- \* Protext discussion forum
- \* Hints and tips about using Protext
- \* Programs and macros
- \* Ideas to help you make the most of your printer

6 issue subscription costs only **£16**.

Back issues **£3** each.

## "The Protext Companion"

New Protext tutorial book by Alan Bradley (Sigma Press) **£15.95**.

**ARNOR**

For any Amiga with at least 1Mb and Kickstart 2.04 or later. (Also Atari, PC).

Do you have an earlier version of Protext to upgrade? Perhaps you originally tried a cover disk and now have version 4.3. You can take advantage now of the lowest ever upgrade prices. For these prices you get the full program and benefits as described above. Call 01733 68909.

Protext 6.5 Upgrades: From 6.1 **£29.95** 5.5 or 5.0 **£39.95** 4.3 or earlier **£49.95**

Arnor Ltd (AS), 611 Lincoln Road, Peterborough, PE1 3HA. Tel: 01733 68909. Fax: 01733 67299

All prices include VAT, postage within U.K. (Europe add £5, elsewhere add £10). Access/Visa accepted. Cheques payable to Arnor Ltd.

# Mode 15

**VISA**

**MasterCard**

Prices Include VAT

No surcharge for credit cards

Postage & Packing

SIMMs & Hard Drives £5

Printers & Systems £10

Prices are subject to change without notice.

Prices correct at the time of going to press.

Please phone to check availability before sending your order.

**Mode15 Computers**  
**(01258) 837398**

Domus Alba, Cheselbourne,  
Dorchester, Dorset DT2 7NJ

**Hours** 6pm - 10pm Weekdays

9.30am - 5pm Weekends

Answer Phone at all other times.

## SIMMs

	1mb	2mb	4mb	8mb	16mb	32mb
72 Pin 32 Bit 70ns	-	70	122	250	485	1035
30 Pin 8 Bit 80ns	32	-	122	-	-	-
32 bit GVP SIMMs	65	-	188	-	925	-

## IDE Hard Drives (SCSI & SCSI II also available POA)

Various Quality Makes 3.5" Low Profile		Western Digital Caviar 3.5" Low Profile (V. Fast)		Various Makes 2.5" (A1200 or CD32 SX 1)	
SIZE	PRICE	SIZE	PRICE	SIZE	PRICE
170	135	341	220	80	130
210	149	425	235	130	170
250	159	540	270	250	225
320	169	730	345	340	295
420	179	1080	489	405	360
540	209	**** New Lower Prices ****		520	480
1080	475				

**Note:** 2.5" drives come with fitting kit for A1200 and CD32 SX-1 module  
3.5" drives can be fitted into A1200. Fitting kit costs £20 when bought with drive.

## Other Items

Viper 030 MkII 28mhz	140.00	Toshiba XM3401B CD Rom	275.00
Viper 030 MkII 33mhz	207.00	Media Vision SCSI Rom	150.00
Viper 030 MkII 40mhz	235.00	Zappo A1200 CD Rom	185.00
GVP A1230 40mhz 0mb	222.50	Canon BJ10 SX Inkjet Printer	180.00
GVP A1230 50mhz 0mb	290.00	Epson Stylus Colour Printer	450.00
G-Force 040 40mhz for A4000	895.00	EGS Spectrum 24bit Graphics	332.50
WarpEngine 28mhz w/o CPU	590.00	Microvitec 1438 Monitor	285.50
WarpEngine 28mhz w CPU	785.00	SVGA 15" FST m/sync Monitor	310.00
WarpEngine 33mhz w CPU	980.00	CD32 SX1 Module	189.00
WarpEngine 40mhz w CPU	1175.00	Black Keyboard for SX1	38.00
20mhz FPU 68882	24.00	GVP I/O Extender 2S 1P	120.00
33mhz FPU 68882	60.00	Fax Modems - V32bis from	110.00
40mhz FPU 68882	78.50	Power SuperXL 3.5mb Floppy	95.00
50mhz FPU 68882	120.00	Video Backup V3.0	55.00



67 ► first true 'layering' approach, this latter technique has the benefit of not requiring so much MIDI data to be sent down the MIDI lines!

Music-X 2.0 supports the use of Amiga internal sounds so, as far as playing your sequences without using your synth is concerned, all you need to do is use the Music-X 'Amiga Samples' Mode menu option. This will take you to the page display that allows you to assign IFF samples to particular MIDI channels. Once you've assigned the various channels of your sequences to suitable internal voice sounds, you'll be able to play your compositions without having your external MIDI gear connected!

As far as your intermittent note loss is concerned, it's almost impossible to sort these sorts of snags out without actually sitting in front of your MIDI gear and experimenting. Nevertheless, I think you can assume, since it happens with all three software packages that you are using, that the problem isn't software-related. I also think that, because of the intermittent nature of the fault, you can rule out ideas about damaged Amiga serial I/O chips and so on. That leaves your interface, your leads and connections, and your synth.

If the synth is old, or in poor condition, then it could be something like dirty key contacts. Is it always particular notes that are affected? If it is, it might simply be that you sometimes press a key slightly lighter than you normally do and, on these occasions, the note does not sound? Similarly poor MIDI lead connections can sometimes cause intermittent faults.

You say that you've checked various things, but have you done it in a methodical way? You need to determine exactly where the problem lies and the best way to do this is to test the various components of your MIDI system in isolation. Do you have a friend with a sequencer set-up that you could make use of for a half an hour or so? If so, then connect your synth to this system (by the way, don't use your leads, or your MIDI interface – use your friend's).

If you cannot duplicate the lost notes fault using this second system, you'll know your synth is not to blame.

Next thing to do is try this duplicate MIDI system, using your MIDI leads. If problems are still absent, then try your friend's MIDI system as normally set up, but using your MIDI interface. With this sort of approach, you should soon be able to locate the source of the trouble.

Paul

## RGB or video monitors?



Q. I have my Amiga connected to my TV from a modulated video output, but my friend has his connected to a proper RGB monitor. His display looks much better than mine. Why?

Alex Large  
Godalming, Surrey

A. Your friend's monitor looks better because it is translating the Amiga's video output into a picture in the most direct way – straight from the RGB (Red, Green and Blue) port to the

monitor's own RGB display circuits, with the minimum of electronic circuitry in-between.

In the case of your TV, the Amiga's internal RGB video signals have first to be converted to a modulated RF signal, meaning that the RGB components have to be combined together and then modulated into a signal suitable for transmission to your TV.

Once inside the TV, they must be demodulated and converted back to RGB so that the monitor can display them and, as a result of this modulation and demodulation, the original Amiga RGB signal will inevitably become somewhat degraded. Obviously the best solution, if you can afford it, is to buy an RGB monitor.

Gary

## Microvitec Boarder problems 1



I have purchased a Microvitec 1438 monitor and, having successfully installed it and adjusted the relative overscans, I find that the DBLPAL and

Productivity modes both produce a border of about an inch left and right when displaying the Workbench window – i.e. the mouse pointer will not enter these areas (not to be confused with the quarter-inch black border which is standard with Microvitec). Is there any way of overcoming this problem?

Incidentally, using Super72 Super hi-res laced mode produces a full-screen picture, but with colours which appear washed out, even with full brightness. Is this normal?

Alan Haywood,  
Woodford Green, Essex

Microvitec have been very good with their response to this and they rang me back several times to make sure I was being sorted out. They did this mistakenly believing that I was an actual customer (even though I had initially explained what I was doing), so if this is normal customer service, then I, for one, am impressed!

The border problem is to do with display frequencies of the DBLPAL and Productivity modes and the need not to overdrive the monitor's display electronics and possibly lead to safety hazards. For such a screen mode to fill the entire display area would require more voltage being sent to the display components than they might safely be able to handle, so instead the picture display area is reduced.

The result? End of possible safety hazard, but smaller image size. Microvitec pointed out that they often provide monitors which are factory-adjusted to suit the customer's specifications, although I pointed out that most Amiga/1438 owners wouldn't have been aware of that from their adverts in Amiga mags and when they bought their monitor from a dealer.

Whilst it is often possible to overcome screen-size limitations by adjusting a monitor's horizontal and vertical widths to fill the screen, again the Microvitec design precludes this for the safety and tolerancing reasons outlined above. Hence, to stop your monitor blowing up, or giving you a few more X-rays than you bargained for, the DBLPAL and Productivity

modes won't fill the monitor's screen with their displays, no matter how hard you try.

In case you didn't know, the reason for the small borders you mention as being normal with the 1438 is actually due to the Amiga, not the 1438. Compared to a standard PAL video line signal (with which the 1438 monitors are routinely set up) the Amiga's PAL line signal actually contains less picture information and slightly more "blanking" information at either end of the line, hence you see the black borders. I'm not just taking Microvitec's word for this – I've actually seen the way an Amiga video output looks on test gear and it is shorter on picture information than your average video signal.

As for the second part of your question, Microvitec tested one of their own 1438 monitors with their in-house A1200 and couldn't reproduce your problem in any way whatsoever. They tell me that once the monitor's black levels are set and saved, then there will be no difference between the black levels in any of the frequencies which the monitor may run displays at.

They were puzzled by your problem and respectfully suggested that it may possibly be related to the software you are running, or to something which might be adrift in your Amiga itself. If the problem persists, call Microvitec's Technical Support (= 01274 390011) – they'd like to get to the bottom of it themselves. Gary

## Microvitec Boarder problems 2



In February's Amiga Shopper (46) a reference is made on page 21 to a 720 x 560 DBLPAL screen. I assume that the 720 pixel width is achieved by getting rid of the two borders to either side of a normal DBLPAL screen. How is this done?

The largest screen size I can manage is 676 x 560, which usually leaves two black borders on either side of the visible area. Do I need to modify some ToolTypes to get rid of these borders?

Richard Martin  
Castle Bromwich, Birmingham

A quick word with Jeff Walker gave me the answer to this – set up the screen size using the overscan screen size adjustments from Workbench's Prefs/ScreenMode program. And if you re-read the mag you'll find it says 720 x 550, not 560.

As for as why the image actually doesn't fill your 1438's screen, see the previous answer.

Gary

## Locale problem



I have an A1200 to which I recently fitted an IDE 80Mb hard drive. Everything has worked fine until a few days ago, when I tried to change the keyboard setting to a British keyboard.

Now every time I boot up I get a system request asking for volume LOCALE. When I



- 69 ► click on Cancel, the machine then boots up as per normal.

**Kevin Williams**  
West Midlands

If your Gb keymap couldn't be found, or the keymap wasn't in your dev/keymaps drawer, then I would simply have expected you to get a 'file not found' error message during boot up and this side of things would have nothing to do with the locale settings or files.

Now I might have missed something obvious here, but the logical device name **LOCALE:** gets assigned to the sys:locale directory during booting and any subsequent changes that you might inadvertently have made, using the locale preferences editor, would only have allowed selections to be made from files that were actually found anyway.

The fact that you are getting a requester for a locale volume tends to suggest that either this assignment is no longer being made, or your locale directory no longer exists.

My current thinking is that you need to take a look at the assignments being made in your start-up sequence! **Paul**

## Disk errors



**Hardware**

When I load my disks my Amiga says that they either have a read error or checksum error. I have left it in twice for repairs, but it still seems to be virused.

I think my Philips monitor is somehow taking the information off my disks. If I

were to get an external disk drive would that have any chance of getting virused by my computer?

**John Cuddihy**  
Co Kildare, Ireland

Are we talking about some of your disks, or all of your disks? If these problems seem to involve almost all of your disks, then I'd say it must be a hardware fault – but surely the shop or repair centre that you took your Amiga to would have told you if they had found a drive fault or not.

Now, you might have a virus, but why on earth haven't you been using a virus checker program (you should also always keep your program disks, and any other disks that you don't write information to, write protected – that way they can't be infected with viruses).

Have another talk to the people who repaired your machine and ask them exactly what they found. Also get hold of a virus checker program (such as Virus Checker by John Veldhuis). Having ruled out hardware faults and viruses, you may then need to look carefully both at the quality of the disks you are using and the way you are using, and looking after, your disks in general. I use everything from the very best to the very cheapest disks and, like most users, hardly ever have disk problems (I come across perhaps one or two dodgy disks per year).

What I can say is that in almost all cases I've seen where people have had continual disk error problems it has been either due to a drive hardware fault, or to people continually treating their disks and their drives badly. Pulling disks out when the drive light is on, leaving disks

lying around all over the place and so on. Forget about blaming your monitor – it has nothing to do with your problems. Also forget about getting an external drive – that wouldn't help either!  
**Paul**

## A500 CD-ROM



**Hardware**

Can you tell me whether it is possible to buy a new CD-ROM drive for the A500, if they still make them? And with 1Mb, is it possible to run one? I've been thinking of upgrading to an A1200, but is it worth it?

**J. Pollard**  
Leighton Buzzard, Beds

Presumably you are talking about the A570 offering and the short answer here is that these are no longer made (although they can sometimes be picked up second hand). To be honest, I think you'd be wasting your money continuing along the A500 path anyway.

Under normal circumstances I'd say an A1200 (or perhaps a A4000/030 path if you can afford the extra cash) would be a far better investment anyway and, needless to say, you won't have any problems getting a CD-ROM drive for these machines.

Having said that, I wouldn't buy anything just yet – not, that is, until it has become crystal clear exactly what the new owners of Commodore Amiga have in mind and stocks of the various Amiga bits and pieces have got back to normal. **Paul** ■

## Fill in and get answers to your questions

## AS48

If you send in a question for the Amiga Answers experts, please fill in and include the form below (or a photocopy if you don't want to cut up your magazine). If you have several questions in different fields that should be addressed to more than one of our experts, please send in your queries on separate forms.

Send your form and question to: **AMIGA ANSWERS, AMIGA SHOPPER, 30 MONMOUTH STREET, BATH, AVON BA1 2BW.**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Post code \_\_\_\_\_

Your machine:

- |                                |                                    |                                |                                |
|--------------------------------|------------------------------------|--------------------------------|--------------------------------|
| <input type="checkbox"/> A500  | <input type="checkbox"/> A500 Plus | <input type="checkbox"/> A600  | <input type="checkbox"/> A1000 |
| <input type="checkbox"/> A1200 | <input type="checkbox"/> A1500     | <input type="checkbox"/> A2000 | <input type="checkbox"/> A3000 |
| <input type="checkbox"/> A4000 |                                    |                                |                                |

Approximate age of machine: \_\_\_\_\_

Kickstart version (displayed at the "insert Workbench" prompt)

- |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|
| <input type="checkbox"/> 1.2 | <input type="checkbox"/> 1.3 | <input type="checkbox"/> 2.x | <input type="checkbox"/> 3.x |
|------------------------------|------------------------------|------------------------------|------------------------------|

Workbench revision (written on the Workbench disk)

- |                              |                              |                                |                                    |
|------------------------------|------------------------------|--------------------------------|------------------------------------|
| <input type="checkbox"/> 1.2 | <input type="checkbox"/> 1.3 | <input type="checkbox"/> 1.3.2 | <input type="checkbox"/> 2.04/2.05 |
| <input type="checkbox"/> 2.1 | <input type="checkbox"/> 3.0 |                                |                                    |

PCB revision (if known). Do not take your machine apart just to look for this! \_\_\_\_\_

Total memory fitted (see AVAIL in Shell for Workbench 1.3) \_\_\_\_\_

Chip memory available (see AVAIL in Shell) \_\_\_\_\_

Agnus chip (if known) \_\_\_\_\_

Extra drive #1 (3.5in/5.25in) as DF : Manufacturer \_\_\_\_\_

Extra drive #2 (3.5in/5.25in) as DF : Manufacturer \_\_\_\_\_

Hard disk: \_\_\_\_\_ Mb as DH \_\_\_\_\_ : Manufacturer \_\_\_\_\_

Extra RAM fitted – type, size in Mb and manufacturer \_\_\_\_\_

Please indicate details of any other hardware which could help us to answer your question:

---



---



---



---

Now, use this space to describe your problem, including as much relevant information as possible. Please continue on a separate sheet if necessary.

---



---



---



---



---



---



---



---



# Mail Order

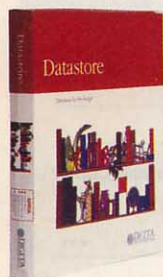
We want you to have the best for your Amiga and we don't want you to break the bank to get it, so check out our Amiga Shopper readers' offers, all at low, low prices.

## Turbotech Clock Cartridge

Your Amiga will always know what day it is with this handy device – even after it's been switched off! Once installed, your Amiga will boot up with the correct time and date already set. Simply fits into the disk drive port (or on the back of your second drive). Complete with software.



Description	Turbotech Clock Cartridge
RRP	£19.99
AS price	£17.99
Order code	AMFCLO



## Datastore

Datastore is a revolutionary database which is accessible, sophisticated and powerful, yet easy to use. The number of records is limited only by the amount of RAM you have available (at least 1Mb with WB2 or 3). Easystart templates that accompany

the package include Club Membership, Recipes, Address Book and a complete up-to-date Amiga Format magazine guide. The Amiga Shopper magazine guide, on the March AS47 Coverdisk, has been designed to be used with this ground-breaking release.

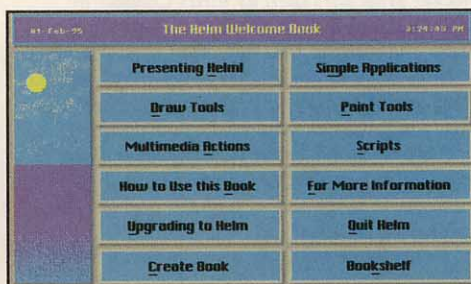
Description	Datastore
AS price	£49.99
Order code	AFDAST

## Mouse 'n' Mat

At last! A quality replacement-mouse at a bargain price, complete with mouse mat. The 260dpi resolution mouse is 100% Amiga- (and Atari ST-) compatible and both buttons are fully micro-switched for maximum reliability and performance.



Description	Mouse 'n' Mat
AS price	£12.99
Order code	AFMM



## Helm

A true multimedia authoring system for the Amiga, Helm earned 91 per cent when reviewed by our Consultant Editor Nick Veitch in Amiga Format. Create custom image editors, personal information managers, presentations, kiosks, free form databases, or educational courseware. Helm is both an authoring system and a graphics program, combining draw, paint and image processing tools with a scripting language, a hypermedia database manager and an assortment of user interface objects.

Description	Helm
AS price	£99.95
Order code	AMF503

## XL144E Fax Modem

Find out what all the .Net fuss is about at an unheard-of price! The Information Superhighway will beat a path to your door when you get your Amiga online with this BT-approved 14,400 speed modem. Everything you need to get online (cables, manual, PSU and connection software) is included in this astonishingly low-priced, high-performance package. It even looks good, too. What more could you want?



Description	XL144E Fax Modem
AS price	£139.99
Order code	AFXLMD

## Midi interface

Push your Amiga's musical talents to its limits with the fully-featured ProMIDI interface, enabling you to connect synthesizers and drum machines to your Amiga and use the samples with Amiga Format's Music-X and OctaMED Coverdisks.



**save  
£5**

Description	Midi Interface
RRP	£24.95
AS price	£19.95
Order code	ASMIDI

## Technosound Turbo 2

Like the original Technosound Turbo, version two of this sampler from New Dimensions enables you to grab digitised sounds and sequence them into compositions. It also features many improvements and new functions, including direct-to-hard disk recording, and a built-in tracker. The package contains a digitiser and a set of audio leads.



**save  
£10**

Description	Technosound Turbo 2
RRP	£39.99
AS price	£29.99
Order code	AMSTT2

## Wordworth 3.1SE

This is the very latest version of the most successful Amiga word processor ever. Complete with online help, Auto Correct, drawing tools, TextEffects, a 116,000 word Collins spell-checker and thesaurus, 3.1SE has been specially created to run on a base A1200 with 2Mb and a single drive. As we said when we awarded it an impressive 85% in our February 1995 issue; "The best value word processor currently available on features and price".



Description	Wordworth 3.1SE
AS price	£49.99
Order code	AFWWE

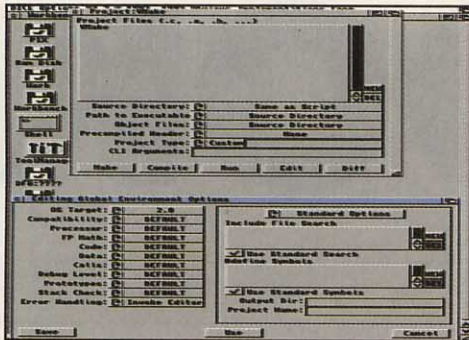
## AS binder

If your mags live in large piles on the floor, and you can never find the one you want, then keep your AS collection neat and tidy with these practical, yet stylish, white AS binders.



Description	One binder
AS price	£5.99
Order code	AS108
Description	Two binders
AS price	£9.99
Order code	AS109





### DICE 3.01

Save over £30 when you buy the full version of our DICE Coverdisk. The full package comes on five disks, with a 450 page manual, and new features, including: no limit on the number of procedures in each file; revision control system; link libraries for 1.3, 2 and 3; extra link libraries; higher maths functions including FPU; support for bitfields, pragmas, etc.

**save  
£30**

Description	Dice 3.01
RRP	£129.99
AS price	£98.95
Order code	AMS501

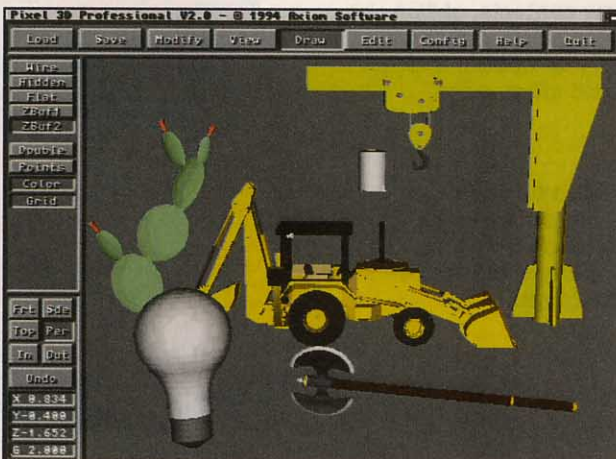


### Vista Pro Lite

This truly amazing fractal landscape program from Meridian enables you to build your very own scenery on your Amiga. After you've created the perfect landscape, you can animate it to create stunning fly-bys, or use it as backgrounds in your own games, pictures or 3D renders. And it even works on standard A1200s. One not to miss!

**save  
£20**

Description	Vista Pro Lite
RRP	£59.95
AS price	£39.95
Order code	AMS501



### Pixel 3D Pro V2

**save  
£70**

If you are a 3D artist, then you will find this excellent 3D object manipulation program quite mind-numbingly useful. Not only can you convert objects from one 3D format (such as Imagine) to another (such as LightWave), but Pixel Pro V2 also has a wide selection of modelling tools.

Description	Pixel Pro V2
RRP	£199
AS price	£129
Order code	ASHP3D2



### Inkjet Refill Kits (Black And Colour)

An easy – and extremely cost-effective – way to keep your inkjet printer topped up with the black (and coloured) stuff. Containing full instructions, filling syringe and enough ink to fill most cartridges at least twice, these kits are suitable for the following printers: HP Deskjet, Deskjet Plus, Deskjet 500, 510, 520, 500C, 550C, 560C; Olivetti Bubblejet JP150, 250, 350; Canon Bubblejet BJ10e, BJ10ex, BJ10sx, BJ200, BJ130, BJ300, BJ330, BJC600; Epson Stylus 800, 1000. The kits contain the best quality thermal ink and are dispatched in packs of two (allowing you to refill your cartridge, oh, at least four times).

Description	2x Black Inkjet Refills
AS price	£11.99
Order code	AFIJBK

Description	2x Colour Inkjet Refills
AS price	£19.99
Order code	AFIJK

**Call our order  
Hotline on  
01225 822511**

## Amiga Shopper reader offer form

**AS48**

Name \_\_\_\_\_

Address \_\_\_\_\_

Post Code \_\_\_\_\_

Phone Number \_\_\_\_\_

Description \_\_\_\_\_ Price \_\_\_\_\_ Order Code \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Total order \_\_\_\_\_

Method of payment (please circle) Access Visa Cheque PO

Please make cheques payable to: **Future Publishing Limited**

**All prices include posting, packing and VAT**  
**Credit Card no**

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Expiry Date** \_\_\_\_\_

Send this form to: **Amiga Shopper,  
Future Publishing Limited,  
Freepost (BS4900),  
Somerton, Somerset TA11 6BR**

Do not send cash. Use the method of payments listed above. EEC customers registered for VAT, please quote your registration number:

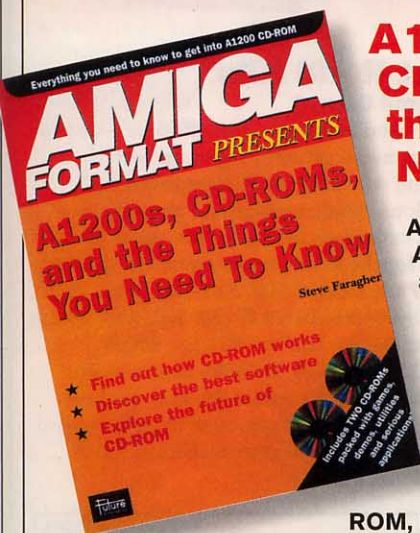
**Customers outside the UK add £4.00 for overseas delivery AMS/48**

☐ Tick here if you don't want to receive special offers from other specially-selected companies.



# AMIGA SHOPPER BOOK

## Top selling titles



### A1200s, CD-ROMs, and the Things You Need to Know

Add a CD-ROM drive to your A1200 and you'll be able to access the ever-expanding range of Amiga CD-based software and enjoy CD32, audio CD and CDTV compatibility.

This new book tells you everything that you'll need to know about CD-

ROM, how it works, the growing range of software that is available and future industry plans to exploit the full potential of this exciting new medium.

#### 2 FREE CD-ROMs!

Included with this 100-page book are two FREE CD-ROMs packed with hundreds of megabytes of useful utilities along with demos of the latest games that utilise the full potential of CD-ROM. Includes a comprehensive glossary to help you unravel desktop video jargon and terminology.

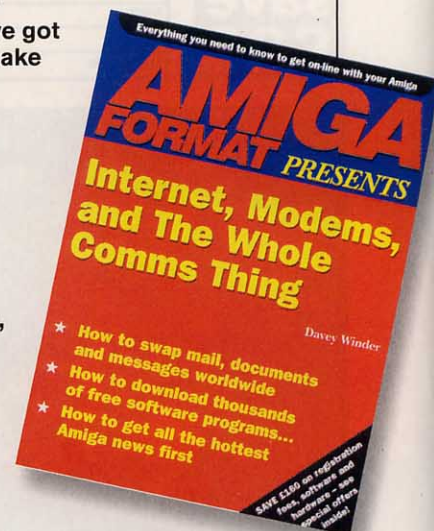
### Internet, Modems and the Whole Comms Thing

This book contains everything that you need to get on-line with your Amiga:

- How to find your way around the Internet, CiX, CompuServe and other major networks.
- Bulletin Boards: what are they, who runs them, what do they do and how are they run?
- You've got an Amiga and you've got a modem – now how do you make them talk to each other?
- Make new contacts, obtain technical support, download software, join special interest groups and much more!

#### SAVE £££s

Over £160 to be saved on network registration, software, hardware and on-line services – for details see the vouchers inside the book!



Order No **FLB5262**  
Price **£19.95**

Order No **FLB122A**  
Price **£19.95**



### ARexx

ARexx could well be your Amiga's single most important asset.

It's a powerful programming language in its own right, it lets you create time-saving automated scripts for the increasing number of commercial programs that support it. In fact, ARexx is purpose-built for multi-tasking operations just like your Amiga!

The book includes practical help and advice for beginners and authoritative reference material for experienced users.

ARexx is probably one of the Amiga's best kept secrets! Now you can learn how to use it with this NEW book!

This brand-new book contains everything that you need to know to get the most out of ARexx:

- Running ARexx
- Basic programming
- Function libraries
- Full ARexx reference
- Debugging
- ARexx 'ports'
- Controlling programs
- Automating tasks

Order No **FLB9052**  
Price **£17.95**

**CREDIT CARD HOTLINE 01225 822511**







# Photogenics

"I have been **waiting** a long time for a program like Photogenics."

Welcome to a new tutorial dealing with how to get the best out of Almathera's new image processing package – Photogenics. This month **Graeme Sandiford** explains the mysteries of alpha channels.

**W**hen I first started to work at Future Publishing, it was in the Scanning Department – this gave me the chance to use some powerful software, foremost of these was Adobe Photoshop. This is regarded as one of the most powerful image processing packages on any platform. At this point you are probably wondering what this self-indulgent anecdote is in aid of. Well, it's just that I have been waiting a long time for a program like Photogenics. A program that incorporates some of Photoshop's best features.

It seems that I am not the only person to be impressed with Photogenic's excellent range of features, because there were plenty of people walking around the World of Amiga Show with a copy of Photogenics in their arms. If you are a reader of our sister magazine, Amiga Format, you will also have been treated to a chance to try out Photogenics for free with issue 69's Coverdisk. In view of this excellent product's popularity, we decided to give you a hand in getting the best out of it. However, we expect you to have a rudimentary understanding of how the program works – so get reading your manual or the Amiga Format Coverdisk pages!

## Switching channels

The first feature we are going to highlight is one of the most powerful and versatile features of any image processing package – alpha

channels. They can be put to all manner of useful tasks, from making composition smoother, adding drop-shadows and generating effects. They are basically images whose greyscale values restrict the application of certain filters. This month we will be dealing with the last use – we will be creating a logo.

The first thing you need to do is create a simple shape – a star-shaped image can be found on this month's Coverdisk 2.

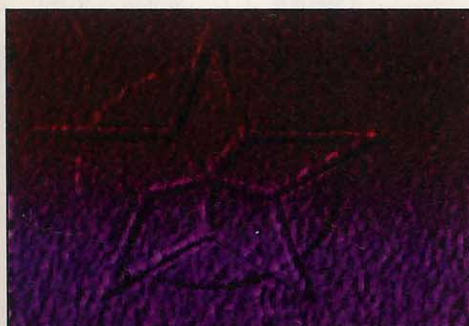
Next, we need to create a hammered-metal texture. We'll do this by using the noise loader as a starting place. Press <right-Amiga><L> and select the white-noise loader. Accept the default image size of 320x256 pixels (we'll use this size throughout) and then apply the sharpen filter on the whole image. Fix the image (you should do this every time you make a change), apply the blur filter to soften it and fix your changes again. This process can be repeated several times.

Next, we'll add some colour – apply the balance filter, using the option button to specify the colour changes.

If you want to take it a step further, then apply the gradient tint afterward. This will give a nice gradual change in colours.

Now we're going to create an embossed effect. Select the star image and apply the embossed filter. Next, move this image to the alpha channel.

The final step is to select the noise image and apply the highlights filter. The filter will automatically use the data in the alpha channel to create a hammered and partially raised surface. ■



We will be creating this image, using Photogenics' alpha channels – a simple, but eye-catching, logo.

## On the Coverdisk



images are of a low resolution (320x256), so you shouldn't encounter any memory problems.

We have included some of the images used to create the logo on Coverdisk 2. This will stop you having to keep too many images in memory, especially if you're using the Coverdisk version of the program. The

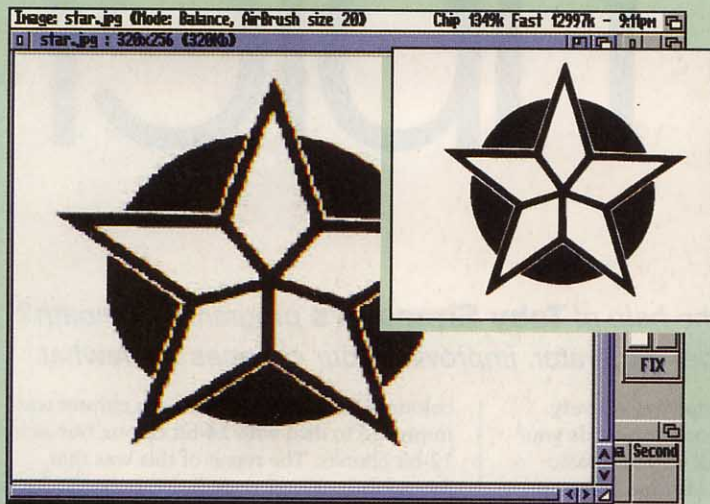
## Five more tutorials

This is just the first of six tutorials that we've planned for you. We will be covering most of the important features of Photogenics. However, some of the techniques that we will discuss in the tutorials listed below are equally applicable to other similar packages.

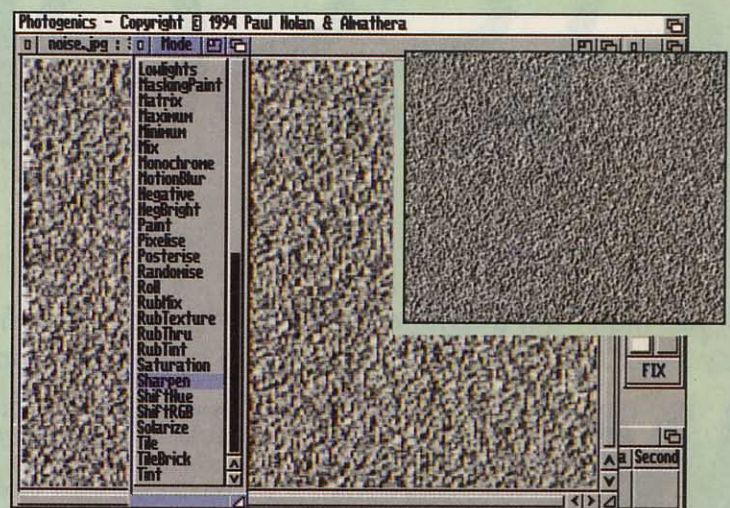
1. Alpha channels
2. Text effects
3. Filter effects
4. Image composition
5. Image retouching
6. Drawing techniques



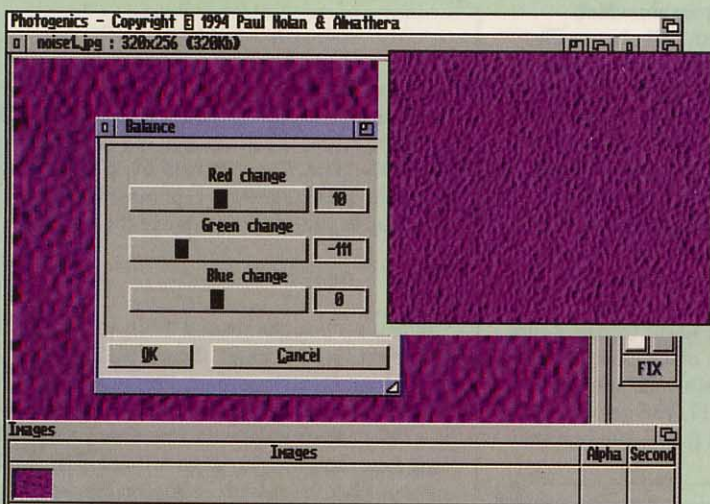
## Making your own logo



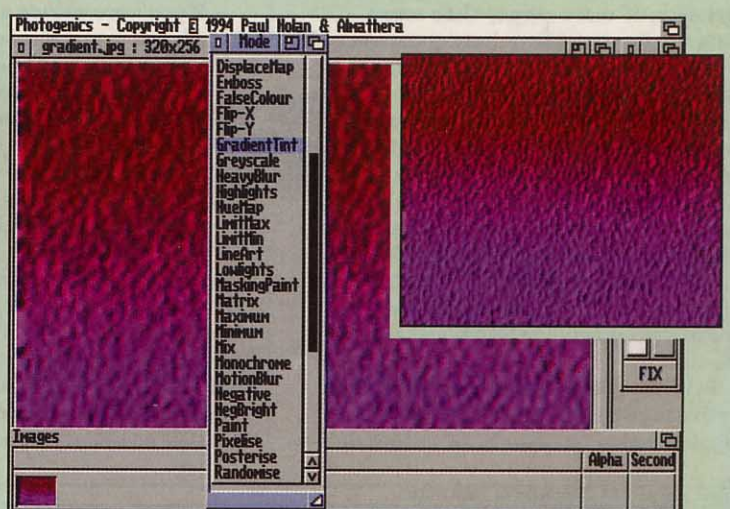
- 1** Create a simple shape that will form the basis for your finished logo. A star-shaped image can be found on this month's Coverdisk 2.



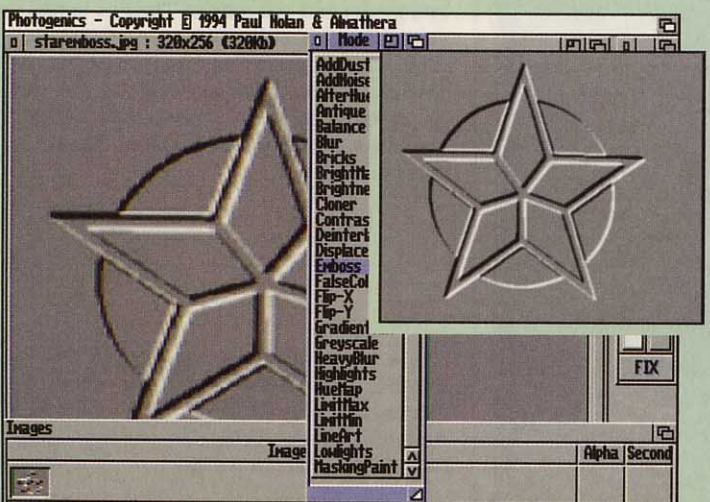
- 2** Press <right-Amiga><L> and select the white-noise loader, apply the sharpen filter on the whole image and then the blur filter.



- 3** To add some colour, apply the balance filter (using the option button to specify the colour changes), by changing the RGB values.



- 4** If you want to take it a step further, then apply the gradient tint afterwards. This will give a nice gradual change in colours.



- 5** Select the star image and apply the embossed filter. Next, move this image to the alpha channel.



- 6** Select the noise image and apply the highlights filter. The filter will use the data in the alpha channel to create a raised surface.



# Assembler Part 7

So, you didn't win a fortune on the National Lottery with the help of **Toby Simpson's** program last month? Let's see if he can upgrade it by making it a random number generator, improving your chances somewhat.

**W**ell, if you're reading this, then it's very likely that last month's Assembler program failed to win you a fortune on the National Lottery. Since I'm still here, you can also safely assume that I am also not in possession of more money than sense. (Hang on, I've got a fiver here somewhere.)

One of the reasons for this is likely to be that the program was not entirely brilliant in the way it chose its numbers. It would be far better if the numbers were more spread out; if the program could not produce the same number twice; and even more sexy if the results were printed out in numerical order. With this in mind, we're going to tackle the first of these problems with a forage into random numbers and learn some new programming techniques at the same time.

Sadly, there is also no escape from a look into the more boring (but far more useful) subject of logical operations. As we introduced

in part 1 of this course, computers are very simple beasts. The microprocessor inside your machine is only capable of a very few basic operations. A whole bunch of these come into a group involving Boolean algebra, which sounds a lot more complicated than it actually is. Let's demonstrate with a useful example.

If you were writing a program which would read in and display an IFF picture file, then you would need to deal with the palette at some point. Every colour entry is stored as three bytes: one byte for the red value, one for green and finally one for blue. It follows that we have a total of a 24-bit value, giving us over 16 million colours.

A lot of 24-bit art packages with 16 million colours possible use 3 bytes for each palette entry. The problem with the Amiga video hardware is that it deals in 12-bit values, 4-bits for red, green and blue. On older ECS Amigas, only 12-bit colour was possible. (If you work this out, 2 to the power of 12, you get 4,096 possible combinations and thus 4,096 possible

colours.) On AGA machines, the chipset was improved to deal with 24-bit colour, but as two 12-bit chunks. The result of this was that Assembly language programmers on the Amiga often have to convert 24-bit values to 12-bit values. Let's say that we have our 24-bit palette entry stored in the register D0 in this format...

00RrGgBb

...where the first byte is blank.

The second stores the single byte red value, the third stores the green and the final byte stores the blue. For your next trick, write a program which converts this value into a 12-bit value in the same register of the format...

00000RGB

...where we lose the second 4-bits (4-bits is referred to as a nybble) of each colour, which is the least significant part. This is the easiest way of converting 24 to 12-bit colour, but there is a catch. With what we know about Assembly language, how would we go around this? Well, we wouldn't, because it is impossible. So, let's introduce a few tricks.

We'll start with something called "an AND gate". Imagine an electronic component with two inputs and one output. The two inputs are digital, and can either be on, or off. The output is also digital. Assuming 1 is on, and 0 is off, if we feed a 1 and a 1 into an AND gate, we would get a 1 out. Any other combination, and we would get a 0. Let's have a look at this in a small table:

A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1

In the above table (called a truth table), A and B are our inputs and Q is the output. You can see that only if A AND B are 1 does the output become a 1. OK, that was easy - let's have a look at an OR gate:

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	1



```

Devpac Amiga 3.04 Copyright © 1993 HiSoft
lottery.asm (2)
    moveq    #500,d0
    SYS     OpenLibrary
    move.l   d0,DosBase
    beq.s    ST_Failed_Dos ; Quit if no DOS.

---- Find STDOUT: ....
    DOS     Output
    move.l   d0,STDOUT

---- Seed the random number generator ....
    bsr     Init_Seed

---- Show our lottery guess ....
    moveq    #505,d1
ST_Loop:
ST_Get49:
    moveq    #49,d0
    bsr     Random_Number
    addq.w   #501,d0
    cmp.w    #500,d0
    bhi.s    ST_Get49 ; Ensure the number is at least 1
                ; Loop around if it is > 49

lottery.asm (1)

Inputs:
    Max_Number    The maximum number to return + 1

Outputs:
    random        The random number from 0 to Max_Number-1

Registers preserved.
xxxx

Random_Number:
    move.l   d1-d3/a0,-(sp)
    tst.w    d0
    bne.s    RN_Fine
    moveq    #500,d0
    move.l   (sp)+,d1-d3/a0
    rts

RN_Fine:
    lea      RandomBuffer,a0
    addq.w   #2,RandomSeed
  
```

Modifying our lottery program to use the new random number generator using DevPac...



In this case, if A OR B are a 1, then the output is a 1. For both AND and OR there is an opposite version, NAND and NOR. NAND stands for NOT AND. In both cases, imagine that the Q output has been inverted. For NAND, this gives us:

A	B	Q
0	0	1
0	1	1
1	0	1
1	1	0

NAND is particularly important, as it is the basic building block of most digital electronic systems. It is unique in that once you have a NAND gate, by wiring them up in different ways, you can construct *every* other basic building block. You can make an AND gate out of two NANDs, for example. A NAND gate can be made out of a transistor and resistor, easy things to put on to silicon chips. If you have ever done digital electronics at school, you'll probably know of these gates.

You can buy a particular chip, for example, which contains four NAND gates. Out of two of these, you can construct 1-bit of memory. With four of these 1-bit memory units, you can start to think about constructing a device which adds two binary numbers together and so forth. This is the stuff that microprocessors (and future dreams) are built from.

Back to our 24-bit to 12-bit conversion problem. Assuming you have not fallen asleep, you'll recall that we want to convert this...

```
00RrGgBb
```

to this...

```
00000RGB
```

We're losing a lot of colour accuracy in this conversion, but don't worry about that. Full 24-bit white is FF FF FF, 12-bit white is F F F. Introducing from stage left, the AND gate. For the basic logical operations, such as AND, OR and NOT (inversion), there is a 68000 Assembly language instruction. Our original 24-bit colour value is stored in D0. Have a look at this chunk of code:

```
move.l d0,d1
and.l #00F00000,d1
```

Firstly, we've made a copy of our full 24-bit value into D1. Then, we have 'ANDed' it with the 32-bit value 00F00000. To avoid confusion, let's write this down in binary:

```
0000 0000 1111 0000 0000 0000 0000 0000
```

I've divided it into nybble (4-bit) chunks. Now, you should remember that with the AND logical operation, you have to provide two 1s to get a 1 out. In the case of our second program line, we are asking the 68000 chip to AND the values 00F00000 with the contents of D1 and place the result in D1.

The 68000 goes through the contents of D1 bit-by-bit (in reality, it does the whole lot at once) and 'ANDs' them together. If D0 contained the value for white (255 for red, green and blue), it would look like this in binary:

```
MonAm version 3.04 Copyright © 1993 HiSoft
Registers
d0 = 00000031 ... 1 a0 = 0772A704 0000 0000 01D4 5A4E 01D4 ... 002N00
d1 = 00000004 ... 0 a1 = 0772A6CC 0000 0000 0000 0000 ... 00000000
d2 = 075167AF 00g a2 = ABCDABCD 00 0000 0000 0000 0000 0000
d3 = 00000006 ... 0 a3 = ABCDABCD 00 0000 0000 0000 0000 0000
d4 = ABCDABCD <<1 a4 = ABCDABCD 00 0000 0000 0000 0000 0000
d5 = ABCDABCD <<1 a5 = ABCDABCD 00 0000 0000 0000 0000 0000
d6 = ABCDABCD <<1 a6 = 07414204 0748 DDB8 0741 3498 0900 00KY40R400
d7 = ABCDABCD <<1 a7 = 0773FE50 0751 670E 0771 2A64 0000 00g000*d
sr = 0000 T0 UI
pc = 07516806 noven.l d1-d3/a0, -(a7) ; 0773FE4C 0741 4204 0751 670E

2 Disassembly pc
07516806 Random_Number> noven.l d1-d3/a0, -(a7)
0751680A tst.w d0
0751680C bne.s RN_Fine
0751680E moveq #0,d0
07516810 noven.l (a7)+, d1-d3/a0
07516814 rts
07516816 RN_Fine: lea RandomBuffer, a0
0751681C addq.w #2, RandomSeed
07516822 moveq #0,d1
07516824 move.w RandomSeed, d1
0751682A andi.w #57E, d1
0751682E moveq #52E, d3
07516830 add.w d1, d3
07516832 andi.w #57E, d3

4 Source (lottery.asm)
0009 Random_Number: noven.l d1-d3/a0, -(sp)
000A tst.w d0
000B bne.s RN_Fine
000C moveq #500,d0
000D noven.l (sp)+, d1-d3/a0
000E rts
000F
0000 RN_Fine: lea RandomBuffer, a0
0001 addq.w #2, RandomSeed
0002 moveq #500,d1
0003 move.w RandomSeed, d1
0004 andi.w #63*2, d1
0005 moveq #23*2, d3
0006 add.w d1, d3
0007 andi.w #63*2, d3
0008 move.w 0(a0, d3.w), d2

3 Memory
075166B0 6028 0024 C-5
075166B4 5645 523A VER:
075166B8 2070 7269 pri
075166BC 6E74 5F73 nt_s
075166C0 7472 696E trin
075166C4 672E 6173 g.as
075166C8 6D20 312E n.1
075166CC 3030 2020 00
075166D0 3135 2E31 15.1
075166D4 322E 3934 2.94
075166D8 2900 43FA Cú
075166DC 0076 7800 vp
075166E0 2C79 0000 y
075166E4 0004 4EAE DNE
075166E8 F008 23C0 gba
075166EC 0751 675E 00g^
075166F0 675C 2C79 g\y
075166F4 0751 675E 00g^
075166F8 4EAE FFC4 N000
075166FC 23C0 0751 0000
07516700 6762 6100 gba
07516704 0002 7205 000
07516708 7031 6100 p1a
0751670C 00FA 5240 000
07516710 007C 0031 000
07516714 62F2 41FA b0A0
07516718 004E 7405 Nt0
0751671C 0018 67E8 00g
07516720 51C0 7205 000
07516724 41FA 0040 000
07516728 4A18 66FC J0fu

Trace
```

..and trying to get it to work afterwards with the debugger!

```
0000 0000 1111 1111 1111 1111 1111 1111
```

This value is then 'ANDed' with:

```
0000 0000 1111 0000 0000 0000 0000 0000
```

It should not take a university student to realise that for every time we have a corresponding 1 in both numbers we will get a 1 out. The result will be:

```
0000 0000 1111 0000 0000 0000 0000 0000
```

This is, in fact, the R value out of the colour entry. In programming terms, this sort of operation is often referred to as "masking", or "ANDing out". We have effectively grabbed a specified chunk of data, and discarded the rest. This may not appear stunningly useful at this point, but in a few episodes' time, when we are playing with the AGA chip hardware directly, you may begin to realise just what a concept this actually is.

To summarise this operation into an English sentence: "Wherever there is a 1 in the mask, the corresponding bit from the source value will be carried through". In our example, the MASK is the value 00F00000, and the source is the contents of D1. If the value for R had been 6 rather than F, we would *still* have got the correct value.

If we wanted to show this R value on the screen, using our ShowDecimal5 routine, then we would need to move all of those bits across to the right hand nybble, so that they were a number from 0 to 15, instead of 16 million, or so. 68000 contains a set of instructions for shifting binary patterns left and right, as well as "rotating" them (so the ones that spill off the side come back in on the other side).

To move the nybble we're interested in to the right hand, we need to shift it 20 bits to the right. The catch is that you can only shift, or rotate, 8 bits at a time on the 68000 chip, meaning we need to use these instructions:

```
lsr.l #08,d1
lsr.w #08,d1
lsr.w #04,d1
```

OK, I'll come clean. There is a short-cut. We could *rotate* it to the *left*, in which case we can get away with:

```
rol.l #08,d1
rol.l #04,d1
```

OK, I'll come cleaner still. There is yet another method, which involves a sneaky new instruction, which I'll slip in at this point, called SWAP. SWAP swaps the right hand 16 bits with the left hand 16 bits. Hence:

```
swap d1
lsr.w #0
```

With a different sequence of shifting and rotating instructions, we could then proceed to extract the R G and B values from the original 24-bit colour entry, into, say, D1, D2, and D3 consecutively. By then simply adding these together, we would get the correct answer. The full program is:

```
move.l d0,d1
and.l #00F00000,d1
; AND off the R value
lsr.l #08,d1
lsr.l #04,d1
; R now in D1 as 0R00.w
move.l d0,d2
and.l #0000F000,d2
; AND off the G value
lsr.w #08,d2
; G now in d2 as 00G0.w
move.l d0,d3
and.l #000000F0,d3
; AND off the B value
lsr.b #04,d3
; B now in D3 as 000B.w
add.l d1,d2
add.l d2,d3
; Add the results to get 0RGB
move.l d3,d0
; ... and return result in D0.
```



79 ▶ Note that with the shifting and rotating instructions, you specify whether you wish to work with the long word, or byte value. This means that we could shift the byte part of a data register, without affecting the other 24 bits, for example.

For the perfectionists amongst you, and those who already have some programming experience, you'll easily have spotted different ways to improve and optimise the above code. If you are feeling *particularly* clever, cover your eyes and go off and try to optimise the above down to four instructions.

When you give up, check this out:

```
lsl.l    #$04,d0
lsl.b    #$04,d0
lsl.w    #$04,d0
lsl.l    #$08,d0
```

Pretty impressive, eh? It doesn't need any other registers and assembles to a staggering eight bytes and does exactly the same thing. This is one example of where shifting can be useful. There is another, however, which has something to do with the effect that shifting has on a binary value. Let's take the value 32 in binary, which is:

```
00100000
```

Now, we shift this right 1-bit:

```
moveq    #32,d0
lsl.b     #$01,d0
```

The result is 16. Amazingly, shifting a binary pattern right by one divides it by two. Shifting it left will multiply it by two. Shifting right twice divides by four, three times divides by eight, four by 16 and so forth. Indeed, if we have a little look at a binary number with base two column headings, it should be blindingly obvious how this is working:

```
64 32 16 8 4 2 1
0 1 0 0 0 0 0
```

Follow it yourself. Shift that pattern once to the left and the result is 64. It works with *any* number. Shifting allows you to perform certain multiplications and divisions with great speed. The two slowest instructions in the 68000 chipset are the divide and multiply ones. A real multiplication requires a lot of hard work by the processor, shifting is a breeze – particularly in the 68020 and above, where shifts are done very fast indeed. The catch is that you can only divide and multiply by powers of two, but, with computers, you'll find you do that very often.

There is a further catch (oh, why can't things be easy?) and that is the way in which negative numbers are stored inside the 68000. This involves the MSB (Most Significant Bit – the one on the far left) becoming set for a negative number. Shifting will destroy this, and at best will make the result wildly wrong.

They thought of this and, as well as LSL and LSR, there is also an ASL and ASR. These stand for Arithmetic Shift Left and Arithmetic Shift Right respectively. It's time to

## Tabel 1: truth tables

### AND and NAND

A	B	Q (for AND)	Q (for NAND)
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

### OR and NOR

A	B	Q (for OR)	Q (for NOR)
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

### EOR (Exclusive OR, often referred to as XOR)

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0

### NOT (Inversion)

A	Q
0	1
1	0

move on, but before we do, one last set of new instructions:

```
not.l     d0
eor.l     #$ffffff,d0
```

NOT is the simplest of logical operations – it simply inverts each bit in the operand. This can be particularly handy for toggling flags on and off in memory. EOR is "Exclusive OR". EORs are the building blocks of adding machines. The truth table is:

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0

You can see that it actually adds together A and B. Obviously, it can't add 1 and 1 and give the correct result (10) on one output, so it returns the correct result and leaves it up to other gadgets to sort out the carry. You'll note that if we exclusive OR something with Fs (all 1s), then the result is an exact invert of what it was. So, the two instructions above actually perform exactly the same job!

We're not rich yet, so it's time to return to our lottery program. The method we used to obtain random numbers last month was "less than optimal", to be generous. We were reading the screen position directly from a hardware register and using that as our random value. You probably got a lot of the same numbers back. The solution is to use a proper random number generator. There are literally thousands of pseudo random number generators out there. The reason they are called "pseudo" generators, is because they apply some form of algorithm to a number to get the next random number.

For them to work, they need to be correctly "seeded", by which I mean started off with a

number. This is an excellent job for our hardware register. Here is the complete code:

```
IR_M:      equ      65535
IR_B:      equ      8821
;
Init_Seed:  movem.l  d0-d1/a0,-(sp)
            moveq    #$00,d0
IS_Re_Do:  move.w    $dff006,d0
            ; get random seed
            tst.w    d0
            beq.s    IS_Re_Do
            moveq    #64-1,d1
            lea      RandomBuffer,a0
IS_Loop:   mulu      #IR_B,d0
            addq.w   #1,d0
            divu     #IR_M,d0
            swap     d0
            move.w   d0,(a0)+
            dbra     d1,IS_Loop
            movem.l  (sp)+,d0-d1/a0
            rts
;
Random_Number:  movem.l  d1-d3/a0,-(sp)
                tst.w    d0
                bne.s    RN_Fine
                moveq    #$00,d0
                movem.l  (sp)+,d1-d3/a0
                rts
;
RN_Fine:  lea      RandomBuffer,a0
          addq.w   #2,RandomSeed
          moveq    #$00,d1
          move.w   RandomSeed,d1
          and.w    #63*2,d1
          moveq    #23*2,d3
          add.w    d1,d3
          and.w    #63*2,d3
          move.w   0(a0,d3.w),d2
          moveq    #54*2,d3
          add.w    d1,d3
          and.w    #63*2,d3
          move.w   0(a0,d3.w),d3
          eor.w    d3,d2
          move.w   d2,0(a0,d1.w)
          move.w   d2,d1
          divu.w   d0,d1
          swap     d1
          moveq    #$00,d0
          move.w   d1,d0
          movem.l  (sp)+,d1-d3/a0
          rts
;
RandomBuffer:  dcb.w    64
RandomSeed:    dc.w     0
; Random # generator seed/bfr
```

It is dead easy to use. Somewhere near the start of your program, you call "Init\_Seed". This will fire up the random number generator with some sensible values. Then, when you want a random number, you simply put the maximum number you want + 1 into D0 and call it "Random\_Number".

And, Bob's your uncle, a random number from 0 to D0-1 is returned. If you

look at the code, you will notice lots of the new instructions that we have looked at this month – there is nothing in there that you don't already understand now (or so I certainly hope!).

It should be pretty straightforward for you to add this new code into the lottery program yourself, and get the all-new random number system working. Next month, we'll look at making further improvements and sorting algorithms so that we can sort out the lottery numbers a bit. The revised program will be on next month's Coverdisk. Until then, happy programming! ■











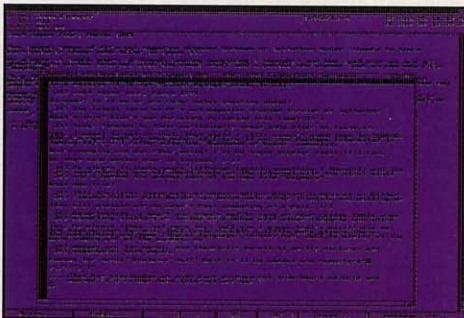
The mail menu is the start of a very long list of echoes that Darkside BBS carries.

read the messages and can take as long as you like. You can also pick and choose on a daily basis which echos you desire and you don't have to call any particular BBS on a regular basis. These latter points are advantages over the third and most complex of the methods of accessing Fidonet – pointing.

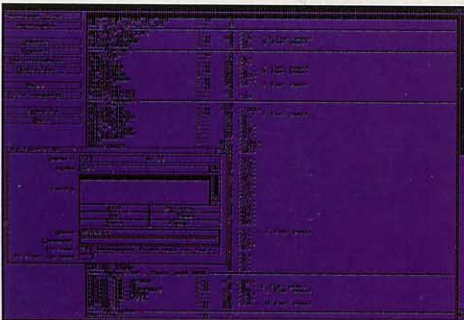
## Complex pointing

Strangely enough, the term 'pointing' comes from the synonym for the humble full-stop – if you were to 'point', you get your very own Fidonet address which belongs only to you, rather than being just a 'user' of the BBS's 'node' (a 'node' is a computer that is attached to a network) address as with the former methods we discussed. For example, my address is 2:254/205. The 2 indicates that it's Europe. The 25 in 254 shows that it's in England and the last number is the node number within that 'net'.

Now, a point would have an additional postfix as thus; 2:254/205.7 where this address



Writing a message in Spot, quoting the previous text and formulating a clever reply over a hot coffee laced with whipped cream and rum.



This list of 'echos' and the twit list of the famous Spot shareware 'pointing' package. The twit feature is most useful for censoring the output from individuals who generate mail you care not to read.

is point '7' off my BBS. OK, so what other differences are there? The biggest is that you are permanently 'fixed-in' to certain echos, though you may 'fix' in and out. Once you are connected, the BBS will pack all the mail up for you without you even being on-line at all! It just builds up the longer you wait between calls, until the SysOp gets annoyed at his/her hard drive filling up.

So, how do you collect the mail? Well here is another fundamental difference. You don't actually call the BBS at all in person. You get a special program called a 'Mailer' to call the BBS, automatically dropping off your mail and picking up new mail. The whole process still impresses me, but, then, I like the Proclaimers, so I'm easily pleased.

## Talk to your modem

Now, this 'Mailer' is similar to a terminal package in that it talks to your modem, dialling out and so on. They differ in that there's special protocols that they share to work out who is what. In fact, what you are running is exactly the same sort of software that the BBSs use to move the mail between themselves. Again, once the mail is magically sitting on your system (a hard drive would be pretty essential, although I have heard of points running on floppy), you use a mail reading and writing program known as a 'Tosser' (!) to do the main business.

'Spot' is the name of the best item of software in this area. In fact it's so good that there's nothing to touch it on the PC either! If you were to get into Fidonet, then it would be a good idea to register the shareware products you would use for this purpose. The good news is that each item, i.e. the Mailer and the Tosser, will only cost you about £20 each and are very good value for money.

Now, so as not to confuse the issue, I've mentioned only 'Fidonet', but I'm really using the term as a *general* statement for the entire group of networks that utilise Fidonet technology. So named because it was pioneered for Fidonet, which is still the largest network and carries the most traffic though with considerably less echos than Mercury & Virtualnet. There are various other networks that can be obtained on many BBSs, like: Mercury, Treknet, Musicnet, Incarnet, Hairnet, Jedinet, the infamous Barnet and, of great interest to Amiga users, the Amiganet.

## The beauty of it all

In fact, the beauty of Fidonet is that it doesn't take much to create your own network and if people like what you stand for, the SysOps and BBSs will take it on-board and let it grow.

Barnet is a good example of this process. It began as an echo between two BBSs and is now a very busy small network stretching across the UK, specialising in the Amiga and free-speech. Basically, whatever you want is out there on a network. If it isn't, you make one yourself and it costs a fraction of the cost of pulling in Internet newsgroups.

If you're just interested in Amiga topics, Fidonet alone has a good 20 odd echos,

## The bottom line is...

### On-line BBS:

#### Uppers:

- Very easy.
- Gives a taster of what Fidonet is.
- Needs nothing but a modem and a term package.

#### Downers:

- You must call the BBS for long periods.
- Very costly for any real amount of activity.

#### Requirements:

Modem and terminal software.

### The QWK door:

#### Uppers:

- Needs only QWK reader which can be downloaded.
- No commitment. Grab what you want and when you want.

#### Downers:

- You have to wait for a BBS machine to pack your mail.
- You don't have your own address and you have to log on in person.
- Moderate cost.

#### Requirements:

Modem, term software and QWK reader. Hard drive recommended.

### Pointing:

#### Uppers:

- Minimum of cost. Can be automated.
- Own address.
- Software is extremely good.
- Have private 'net-mail'.

#### Downers:

- Can be complex to set up.
- Requires that you apply to the SysOp and commit to being a 'point'.

#### Requirements:

Modem, point 'Tosser' software (Spot) and Mailer software. Hard drive is just about essential.

some of them ridiculously busy, including AMIGA\_MAGS, AMIGA\_UK and WORKBENCH.

Being a Systems Operator (SysOp) is essential for starting your own network, but far easier than you may expect, for the point is to create an echo within a network. That only involves hassling your SysOp to create it and then convincing other SysOps to take a 'feed' off the echo.

Many 'points' have started their own echos that have proved very popular. For instance, an echo based on the TV series, the X-Files, recently started up and is now carrying a huge amount of mail.

## Conclusion

If you're not really sure about all of this, and have a modem, I recommend having a look at the mail facilities on a BBS near you. If you're already frequenting the 'boards' and want to try your hand at QWK or pointing, then have a word with your local SysOp. ■



# C coding

The Finder application in our series of C programming tutorials is beginning to become pretty useful.

**Toby Simpson** adds the finishing touches and leaves the rest up to you, the newly examined C programmer.

**A**s programs go, our Finder application is beginning to become pretty useful. Last month we installed an ARexx interface into it, allowing it to be controlled from other applications for the first time. This has some far-reaching results, one of which is that we can now customise the program without writing another single line of C code should we so wish. This is particularly important for users of the program other than yourself, as they can customise the program also without needing your source code and the DICE C compiler. The moral is "ARexx gives power to the users".

Although the program is now effectively finished, there are still some issues which need to be resolved. They are:

- Better error messages. Throughout the entire program currently, most error messages pop up as a printf() on the Shell window. This is not very tidy for a program which is now GUI, rather than CLI based.

- CTRL-C handling. Users of the Shell may be familiar with the "BREAK" command which allows you to make a program stop running. There is a facility which will allow us to detect when CTRL-Cs are sent to us, and respond accordingly.

- No ARexx examples! It would be nice to test the ARexx facility with some example scripts, to search multiple partitions and other such goodies.

We'll address all of these this month and finish up the Finder application. The first thing we need to look at is an improvement on the error requesters we issue. Currently, if Finder fails to open the gadtools.library, for example, it uses this code:

```
if (!GadToolsBase =
OpenLibrary("gadtools.library", 37L))
{
    printf("Can't open gadtools.library
V37\n");
    cleanexit(RETURN_FAIL);
}
```

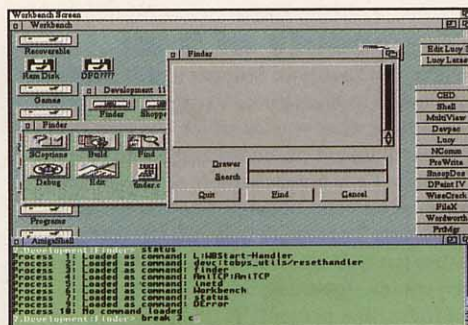
All well and good, but when you are basing your program around a graphical user interface (GUI), you ought, for continuity's sake, deal with errors in the same way. What

we need is a small function which will display a proper requester (such as the one which Workbench uses when "no disk is present in Dfx") with the appropriate text in it. With Kickstart 1.3, there was a function called AutoRequest which was designed to do just this. When Kickstart 2.04 arrived, they enhanced the system support for such requesters and generated a new function called "EasyRequest". Indeed, if you *do* choose to call AutoRequest under 2.04, the Operating System will simply route your call to EasyRequest. EasyRequest is so called because it is amazingly easy to use. It is in the intuition.library and the function prototype for it looks like this:

```
LONG EasyRequest( struct Window *window,
struct EasyStruct *easystruct, ULONG
*idcmpPtr,
APTR arg1, ... )
```

You can specify which window that the requester is to be "attached to" – you have to specify a pointer to a filled out EasyStruct structure (see below) and you then get the option to specify a set of IDCMP flags which are the equivalent to pressing "OK". This is how the Workbench requesters know when you have inserted a disk – they specify IDCMP\_DISKINSERTED which is sent to windows when a new disk is inserted.

There can also be a list of arguments, which form part of the way in which EasyRequest performs its magic, as you can



**Testing the CTRL-C breaking.** In this example, we run the Finder from the Shell, checked which process number it is, using 'status', and then issued a BREAK command to it.

use 'C' style formatting commands in the requester body text to allow arguments and formatting instructions to be specified. The EasyStruct structure is quite simple:

```
struct EasyStruct
{
    ULONG es_StructSize;
    ULONG es_Flags;
    UBYTE *es_Title;
    UBYTE *es_TextFormat;
    UBYTE *es_GadgetFormat;
};
```

We specify three pointers to character arrays, or strings. One of these is the text to be in the title. If we don't specify this, then the requester window title is inherited from the window specified in the EasyRequest function call. If we also fail to specify a window, then the title will default to "System Request". The other two strings are the actual requester body text (which can include C formatting and argument specifications) and the gadget button information. We can have as many buttons as we like in theory, separated with a '|' in the gadget string. For example, to have four buttons, we could specify this:

```
"Button1|Another Button|An OK button|And
a CANCEL button!"
```

This can also have C style arguments inserted, such as %s's and %ld's. (Note that since EasyRequest() uses the exec.library RawDoFmt() function for its argument insertion, you cannot use 16-bit variables such as %d's (int's). You have to use %ld to specify a full 32-bit value).

Here's a small function which makes it easy to generate an error requester:

```
** long ShowErrorRequester(char *er_text,
** char *ok_string, BOOL one_button)
**
** Shows an error requester on the screen.
** er_text is the text to be shown
** in the requester, ok_string is the text
** for the OK button (if any) and
** if the boolean flag one_button is TRUE,
** then the requester has a single
** CANCEL button. Return value is the button
** number pressed, 0 for CANCEL.
**
** long ShowErrorRequester(char *er_text,
char *ok_string, BOOL one_button)
{
    struct EasyStruct my_es =
```



```

{
sizeof (struct EasyStruct),
0, "Error",
"", ""
);
char build_buttons[128] = "Cancel";
/*
**

```

If required, build the requester buttons with an OK string:

```

/*
if (!one_button)
sprintf(build_buttons, "%s|Cancel",
ok_string);
/*
** Set up the easy-request structure:
*/
my_es.es_GadgetFormat = build_buttons;
my_es.es_TextFormat = er_text;
/*
** And put the requester on the
** screen:
*/
return (EasyRequest(NULL, &my_es, NULL,
NULL));
}

```

Type this in at the end of your current source code, and don't forget to add a function prototype for it at the beginning:

```

long ShowErrorRequester(char *er_text,
char *ok_string, BOOL one_button)

```

We've simplified it into four basic parameters: the text to put into the requester itself, an optional OK button text and a flag for whether we want that OK button to be used or not. After writing this function, I realised that we didn't need to have the last flag and could have simplified it by specifying NULL for a blank OK string and detecting this from within the ShowErrorRequester call itself. I'll leave you to make the modification!

Now we need to plug it into the main code. Here is the new code which shows an error if a duplicate ARexx port name was detected:

```

if (!arexx_port)
{
ShowErrorRequester("Cannot create
ARexx port. An application
may already be running with a port
name\n"
"of 'finder'", NULL, TRUE );
cleanexit(RETURN_FAIL);
}

```

It is now simply a matter of replacing all such printf() sequences with new calls to the ShowErrorRequester() function.

Dealing with the CTRL-C BREAK sequence is just as easy. The Amiga Operating System provides a method of detecting such requests through the normal Signal() code. As we mentioned last month, several of your 32 signals are reserved for system use. One of these is SIGBREAKF\_CTRL\_C. As long as we add this to our signal mask generation, like this...

```

signal_mask = arexx_signal +
window_signal + SIGBREAKF_CTRL_C;

```

...then detecting and acting on the request is as easy as adding a few lines of code just after the Wait() call in the event loop handler function called "EventLoop()":

## Jargon busting

- **CLI – Command Line Interface.** This is a low level interface to the computer. On the Amiga, this takes place through Shell windows. On PCs, this happens through MS-DOS. Macintosh users don't get this flexibility at all without buying, or obtaining, other software (sometimes very expensive indeed).
- **GUI – Graphic User Interface.** This is the visual interface which a computer user interacts with to make things happen. This includes mouse pointers, windows, buttons, and so on. The Amiga's GUI is called Intuition.
- **IDCMP – Intuition Direct Communication Message Port.** This is the port through which Intuition sends messages to applications when events happen – for example, a window is re-sized, or moved.

```

/*
** Decide on which port triggered the
** signal:
*/
if (signals & SIGBREAKF_CTRL_C)
{
/*
**
** We have received a BREAK request.
** Quit immediately.
*/
quit_program = TRUE;
}

```

We can now start Finder from the Shell and also force it to quit. This is sort of equivalent to using the ARexx QUIT command we support – both will cause the program to exit immediately.

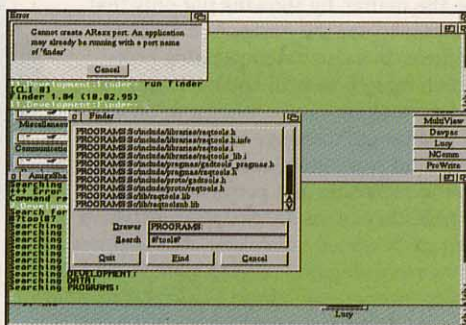
One issue we had outstanding from last month was the hard-coded way in which we adjusted the files\_matched variable so that the display was correct. If you recall, we used NotifyFind() to show some useful information in the listview and the old code was incorrectly counting these as matched files, making the match count at the end three too large. We countered this by manually subtracting three from the result before displaying it.

This sort of coding is bad, because you may forget you had this rigged and when changing something else inadvertently make this bug re-appear. The suggested solution was to add a new parameter to NotifyFind() for "please count this", or not, as the case might be. The new prototype for the function is now:

```

BOOL NotifyFind(char *file, BOOL
log_find)

```



Our new ShowErrorRequester() function in action, showing what happens if you try to run the Finder twice! Also notice the test to the ARexx script.

Instead of just incrementing files\_matched now, we use an IF statement to confirm that we want to count it:

```

if (log_find) files_matched++;

```

This requires a change every single time we use NotifyFind() to add this new parameter. There is only one case where the log\_find parameter is actually TRUE rather than FALSE, and that is when it is called from SearchDir(), where it becomes:

```

NotifyFind(full_path, TRUE);

```

In all other cases, search through your source code for any other calls to NotifyFind() and add a FALSE parameter to it. Remember also to update the function prototype for NotifyFind() at the start of the source code before trying to re-compile it.

For our final trick, here is a neat ARexx script which works with the Finder to search every partition on your system for a specified file:

```

/*
** Example program to search all volumes in
** a system using the C programming course's
** Finder Application.
** Latch onto the Finder Application and ask
** for search string:
*/
ADDRESS "Finder"
SAY "Search for what?"
PARSE FULL search_string
SETSEARCH search_string
/*
** Perform the search:
*/
volumes = SHOWLIST("VOLUMES")
DO loop = 1 TO WORDS(volumes)
search_volume = WORD(volumes, loop) ||
":"
/* Remember to add colon for volume
** specifier
*/
SAY "Searching "search_volume
/* Set this draw and perform the search */
SETDRAWER search_volume
'FIND'
END
/* All done, exit:*/
EXIT

```

This is without adding any new ARexx commands. One does spring to mind, however, for grabbing search information back from the Finder for alternative formatting by the ARexx program.

That's it! All done. The Finder application is officially finished. Next month, we'll make a start on looking into the DICE programming environment in greater detail, focusing particularly on the new debugging and development tools which made their first appearance with DICE version 3. We're not going to forget our Finder application, though, as it forms a useful test-bed for a number of new things – besides, the GUI looks awful and would benefit from a tidying up.

On next month's Coverdisk, we'll include the final Finder program, the complete source code, some examples and an on-line help file. But it's not all DICE, DICE, DICE... we'll chat about documenting programs and show how the on-line help for the Finder was generated using AmigaGuide. Until then! ■

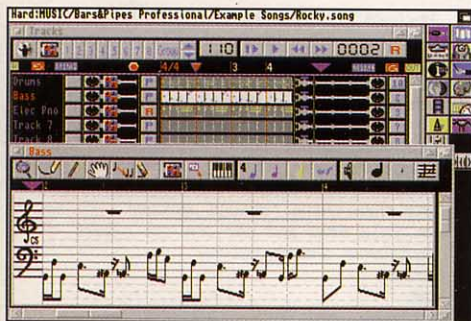


# Back to basics

There are countless different ways that your Amiga can aid in the recording and performance of music, but can it actually produce music? **Tim Tucker** takes a fresh look at the music-making possibilities on the Amiga.



*Bars & Pipes is an extremely well featured Amiga sequencer, if a little on the fussy side...*



*...being able to edit the music via a score or notation system is a boon for those who read music.*

## Syncing feelings

One of the great advantages of working with MIDI is that you can synchronise the Amiga with other bits of audio equipment. The top end sequencers on the Amiga (see separate box) all support the industry standard sync code, SMPTE, and all that's required is a small outlay on extra hardware to act as the SMPTE interface, which costs typically about £100.

With SMPTE, all the MIDI tracks that you record on your sequencer can be played along in time with a multi-track tape recorder, which means that you can add "live" tracks such as vocals and guitars to your MIDI music, and mix it all down to DAT or cassette. SMPTE is also the video and television standard sync code, so you can use it to synchronise MIDI music to video presentations, and use the Amiga's built-in sample support to play sound effects and so on. All this makes your Amiga an even more powerful multi-media tool, and you don't have to spend loads of cash to do it.

**A**s we take a few more paces on the road through 1995, it seems a particularly good time to reflect on the entire subject of making music on the Amiga. It's been nigh on eight years since the Amiga first started being produced, and in that time we've seen nine different models, countless third party hardware upgrades, immense amounts of software and a shift from 16-bit to 32-bit computing. Not bad for such a short life-span. But what about music on the Amiga? Have things really changed that much in the audio stakes? To answer that question, let's take an overall look at the way music can be produced on the Amiga.

## What are your options?

One of the most startling and worrying statistics that arose out of a recent readers' poll in Amiga Format was how few Amiga users, percentage-wise, were using their Amigas to create music. What made the statistic even more upsetting was the fact that there was a far greater proportion of Amiga users who own and play musical instruments, such as keyboards and guitars.

For some reason, these users have not made the relatively small step of integrating the Amiga with their music-making. If this is because they're still unaware of the possibilities, then hopefully this article will go a little way toward shedding some light on the matter, by showing not only that it's easy to use the Amiga in a musical context, but also demonstrating how much more powerful and exciting your music-making can be when you do so.

Although there are countless different ways that your Amiga can aid in the recording and performance of music, there are only two ways in which it can make actual musical sounds happen. One is by recording and playing sounds digitally, using its own specialised internal sound chip, and the other is by triggering a separate musical instrument, such as a keyboard or drum machine, to make its own sounds. Simple. It's even simpler when you realise that

in both cases, you don't have to understand too much about the process to start getting results.

## Digital recording

Using the Amiga's internal sound capabilities is the easiest way to get started because it needs very little outlay. Above and beyond the Amiga itself, the only other equipment you need is a sampling package, which usually consists of a small piece of hardware that plugs into the parallel port at the back of the Amiga, or the PCMCIA card slot on the 600/1200 models; some software; and something to record sounds off, such as a tape deck, CD player or Walkman. Once you're set up, you play the music from the source, and it is converted into digital information by the Amiga.

Most software offers many other options, the most useful of which is the ability to vary the sampling rate. The sampling rate is the number of samples that are taken of the source (one sample is actually made up of lots of little samples), and the higher the rate, the better the quality of the overall sample.

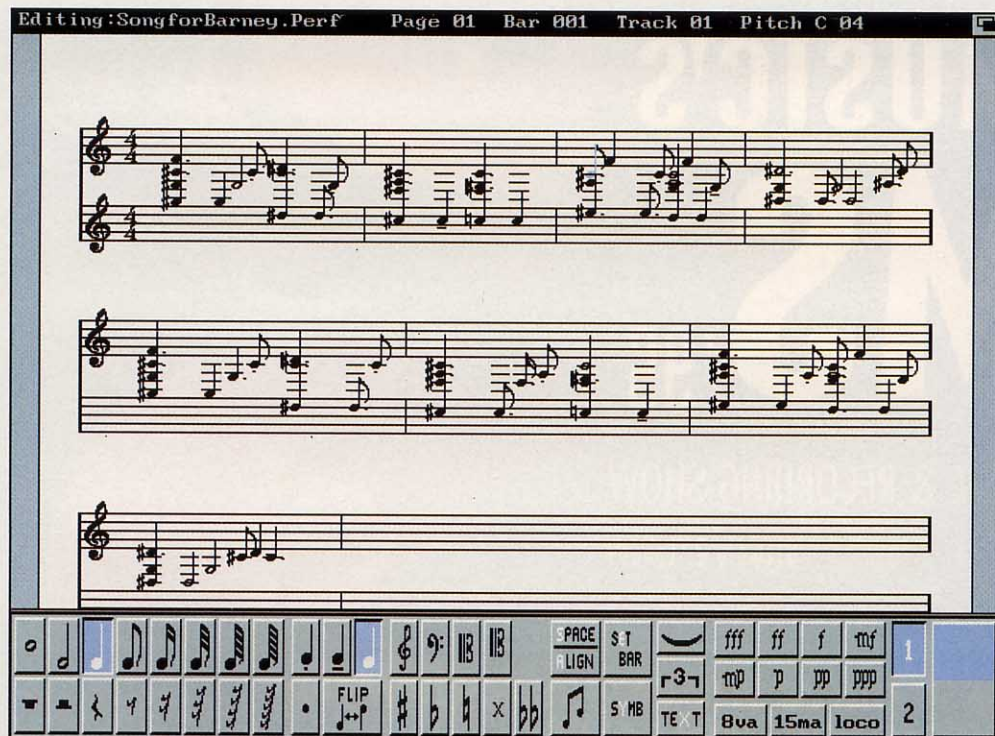
It is measured as a frequency, in hertz, and most sampling programs allow sample rates up to 48Khz (48,000 hertz), which is the same as that used in CD recordings. The resulting sample may not necessarily be as high quality as CD, however. It depends whether the Amiga sampling system is 8-bit, 12-bit or 16-bit. The most common is 8-bit, which is also the cheapest, but you can get advanced systems which reach the quality of CD and professional sampling equipment.

Of course, with higher quality, there are some downsides. If you're sampling at the highest possible rates, then the size of the sample will naturally be that much bigger than a sample at a lower frequency. And don't forget that if you're recording in stereo, which many samplers allow you to do, then you'll actually be taking two samples, one of the left channel and one of the right.

This means that you're going to eat up your hard disk space pretty quickly, or even worse, have a big pile of floppies hanging around. As usual, it's storage space that causes the problems. Once you've recorded the sounds, there are lots of things you can do to them,







Notator-X comes as part of the Music-X 2 package, and it's a very comprehensive score-writing program.

depending on which software you have and what features it supports. The most obvious advantage is the ability to edit the sound, by chopping off the bits you don't want.

This can be extended to other editing features, like splicing two different samples together, fading the sample in and out, reversing the sample so that it plays backwards, and other standard cut-and-paste operations that can alter the original sound beyond recognition. You can speed up and slow down the playback speed, which is easily done by simply altering the sample rate up or down. The more powerful sampling programs allow you to add certain effects, such as reverb, delay, echo and compression, and alter the tone of the sample to make it softer or harsher.

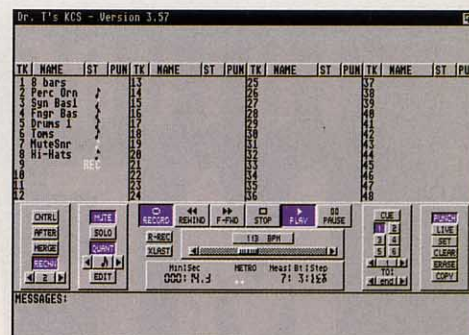
Once you've edited the sound, most sampling programs enable you to loop the samples – in other words, play the sample from the beginning to the end and then skip immediately back to the beginning again, and

so on until you press stop. You can even take little pieces of the sample and loop them.

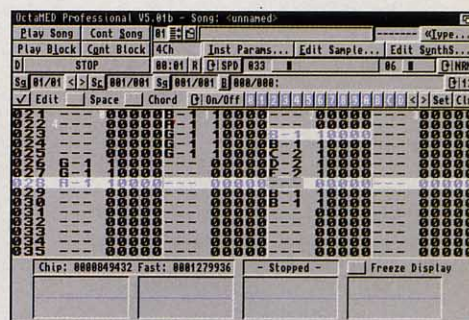
Alright, so you can record sounds digitally, add all sorts of effects to them, and loop them to your heart's content, but what are you going to do with the result? Well, there are loads of options, and what it ultimately depends on is what kind of sounds you're sampling. For example, you may be familiar with the idea of the "break beat". This is an example of digitally recording a musical phrase, in this case a bar or two of drums or percussion.

By looping the break beat you get a continuous rhythm, which you can use as a backing track, and play other musical instruments along with it. Many hip-hop and house music tracks use this technique to provide that essential beat for dancing to. You can do the same with a bass line, a piano riff, a flute melody or even a vocal phrase.

These are just a few examples of what samples can do to liven up your musical



Anyone aiming to make dance music on the Amiga would be well advised to look at Dr T's KCS.



For playing back samples, check out OctaMED.

compositions. Another way that samples are often used is to create your own musical instruments. This is where you sample one sound, perhaps a bass note, a blast of a trumpet or even the sound of glass breaking, and use the sound at different pitches to play music with. To make the sound play at different pitches you can either use the built in sequencing functions that some sampling programs supply, or you can use a tracker program, such as the hugely popular OctaMED. A tracker program basically enables you to load in sampled sounds, which you can record in any sampling program, and string them together at different pitches to produce multi-instrumental music.

Most trackers let you play up to four different sounds at a time (this is because there are actually four channels of sound available on the Amiga), although through a bit of trickery, OctaMED can supply eight simultaneous samples (albeit with a noticeable drop in sound quality). Basically, a tracker is like a drum machine, except it uses the internal sound capabilities of the Amiga, and the samples that you record with it. Most trackers can only cope with 8-bit samples, but already that trend is being changed, with OctaMED promising support of 12-bit sample files in the near future.

## Sequencing

The ability to string musical events together to create music, as described when talking about tracker programs above, is technically known as sequencing, and this is where we arrive at the second way that the Amiga can produce music. Sequencing is an incredibly powerful application, which is capable of creating some extremely impressive and complex musical arrangements. Where tracker programs fall

## Top sequencers

Here are the three best sequencers currently available for the Amiga.

### KCS Level 2 v3.57

By: Dr T's

Price: £99

Distributor: Millenium ☎ 01602 552200

Arguably the best and easiest to use sequencer on the Amiga. Especially good for those who want to make dance music, as the loop record function is the best on any sequencer. Also includes automatic MIDI mixing software, a graphic interface and Quick Score notation package. Unbeatable value.

### Bars & Pipes Pro v2

By: Blue Ribbon

Price: £300

Distributor: Meridian ☎ 0181 543 3500 and

Micro-PACE ☎ 01753 551888

An extremely comprehensive sequencer that has more features than any other music software on the Amiga. Admittedly a little complicated to use, but packed full of features. Especially worthwhile if you plan on using MIDI in a multi-media context, such as with video, Amiga animation and so on.

### Music-X v2.0

By: Software Business

Price: £199

Distributor: Software Business ☎ 01480 496497

Nicely laid out sequencer, with excellent graphic editing facilities and a superb built-in notation section with Notator-X. Still unnecessarily fussy at times, but otherwise a good buy.



LEARN HOW TO MAKE MUSIC ON  
YOUR COMPUTER AT

# FUTURE MUSIC'S MEMS '95

THE MIDI, ELECTRONIC MUSIC & RECORDING SHOW

21st-23rd April 1995

Olympia 2, London

## TEST DRIVE THE LATEST EQUIPMENT FROM TOP COMPANIES

Manufacturers, distributors, developers and retailers all  
showing their latest gear.

## GET KITTED OUT

Buy your first set-up. Upgrade or replace existing equipment.

## FREE SEMINARS - INCLUDING

- Find out how to seriously upgrade your set-up. World of MIDI session musicians Peter Stone **Keyboards**, Gary O'Toole **Electronic percussion** and Nick Cooper **Guitar** will be showing off some of the very latest technology.
- You get to grill the hardware manufacturers and software writers.
- Daily Q&A session for Steinberg users.
- Jo Ortiz gives the low down on how to produce a great MIDI File.

**BOOK NOW AT OUR  
SPECIAL ADVANCE PRICE  
AND SAVE £3 PER TICKET  
£5 IF YOU BOOK NOW  
£8 ON THE DOOR**

### Priority Order Form

Please specify the day you are most likely to attend

Friday 21st April ☐ Saturday 22nd April ☐

Sunday 23rd April ☐

Please reserve the following tickets for me:

Ticket Prices	On the door	In advance	Number Rqr	Total £
---------------	-------------	------------	------------	---------

Adult	£8	£5	<input type="text"/>	<input type="text"/>
-------	----	----	----------------------	----------------------

**GROUP BOOKING OFFER**  
(10 or more people - £4.50 each)

TOTAL £

Tick method of payment:

☐ Cheque (Please make payable to: "MEMS")

☐ Postal order ☐ Visa ☐ Access

Credit card number

Expiry date

Please fill in this coupon in block capitals

Name

Address

Post code

Telephone

Signature

Date

☐ Please tick if you do not wish to receive direct mail from other companies CODE: AS I

Please return form and your payment to:  
**MEMS, PO Box 9, Dunoon,  
Argyll, PA23 8QQ**

Please note that your tickets will be sent to you eight weeks  
before the show.

TICKET **H**OTLINE  
**01369 707888**



## Top Sampling Systems

### Technosound Turbo 2

By: New Dimensions

Price: £49.99

Distributor: New Dimensions ☎ 01291 690933

This hardware/software sampling package is a bargain. Although 8-bit sampling is as high as it goes, it's extremely good quality, very easy to use, and features lots of great effects and features.

### Aura

By: Audio Visual Research

Price: £99.99

Distributor: HiSoft ☎ 01525 718181

Amazing value, this is capable of producing 8-bit and 12-bit sounds. The software is great too, with a phenomenal range of special sound effects. This is only available for 600 and 1200 users.

### Studio 16

By: Sunrize Industries

Price: £1,249

Distributor: White Knight Technologies

☎ 01992 714 539

Full professional package that allows 16-bit multi-timbral sampling. It may be expensive, but this is the best sampling system on the Amiga.

87 down is in the quality of the sounds and the amount of polyphony available. 8-bit samples aren't really the state of the art when it comes to sound quality, and even eight notes at a time is short of the mark in professional situations (in a band the pianist alone may well play eight notes at once, let alone the bass, guitar, drums and any other instruments that feature in your arrangement).

Luckily, there are other musical instruments that are capable of producing very high quality sounds; keyboards, synthesisers, sound modules, samplers, drum machines, there's loads of equipment available which can produce better sounds and much higher polyphony than the Amiga. But how can the Amiga communicate with these musical instruments? The answer is through MIDI, or Musical Instrument Digital Interface.

MIDI is a standard in the music industry. It was originally developed to allow sounds on one keyboard synthesiser to be triggered by the keys of a separate keyboard, thus enabling big multi-layered sounds to be created by linking together two or more synths. When a key is struck on one synth, it not only plays its own sound, but also sends a MIDI message down the MIDI lead to any other equipment that it's attached to.

This message carries all the relevant information about the note that was struck – which pitch it was, how hard it was struck, how long the key was held down, and so on. Any instruments on the receiving end of the MIDI message respond by playing the note



*Even if you don't read music yourself, it can be useful for passing on print-outs to other musicians.*

exactly as the MIDI message specifies. But where does the Amiga come into all this?

Well, by linking a keyboard to the Amiga via MIDI, and running a MIDI sequencer program, you can actually record the MIDI events into the Amiga, and then play back the performance. With multi-timbral synths, and other instruments connected to the MIDI system, you can actually create music with up to 32, 64, or even higher polyphony, making fabulous orchestrations possible.

A good sequencer is at the heart of nearly all musical systems on the Amiga, and fortunately there's some extremely high quality software on the market. Like sampling programs, there's a lot more you can do with the music after you've recorded it and, once again, the most powerful of these is editing. You can alter the MIDI parameters of a note

event, such as its pitch, volume, timing, duration and velocity. Powerful graphic editing screens allow you to do edits on single notes or whole groups of notes and bars that you select.

All sequencers feature quantisation, and this allows you to record your sounds strictly in time, very useful if you want to produce house, hip hop and computerised dance music. Some sequencers also provide a score writing facility, which automatically converts the music you record into standard musical notation, and the more powerful ones are capable of producing complete orchestral scores, with lyrics, dynamic markings and even chord boxes. You can then print these out and hand them out to other musicians, and with a good printer the results are very professional.

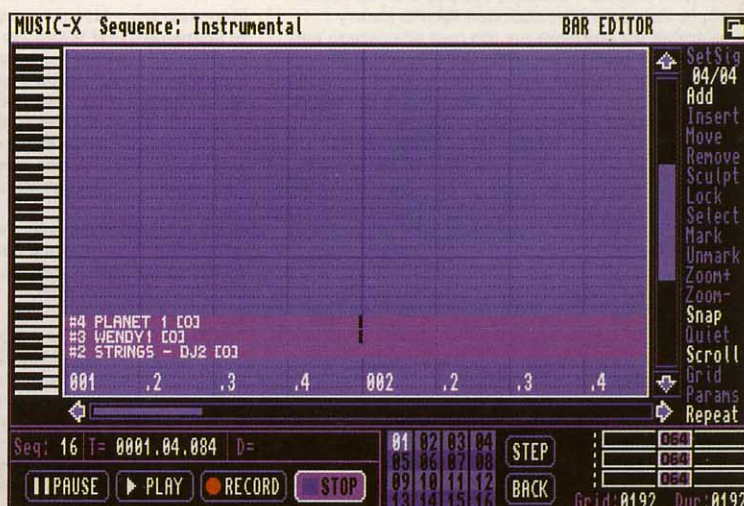
But sequencers don't just record musical notes. All aspects of MIDI can be recorded in a sequencer. That includes the ability to automatically change from one keyboard sound to another with Program Change messages, the recording of pitch bend and modulation wheel information, which add effects to the sound, and dozens of other parameters that allow you to fully automate the recording process.

Many other types of studio equipment are capable of responding to MIDI messages. Effects boxes can be automated from a sequencer, allowing you to change reverb, delay, chorus and all sorts of other effects settings automatically, at exactly the right place in the song. There are even some mixing desks that will respond to MIDI messages, so you can record fader movements and pan sweeps into the sequencer along with all the rest of the music. Once again, you can see how the Amiga becomes the centre of the studio in this situation, as it not only generates music, but also ensures that everything is in time and properly automated together.

The Amiga is a powerful tool in the world of music, and there are many applications on top of the ones mentioned here. Once you start getting involved it doesn't take long to really start tapping the true power of the equipment. So, if you're not already using the Amiga to its full potential, why not get yourself connected? And keep your eye on Amiga Shopper, where we'll be continuing to keep you up to date with music-making on the Amiga. ■



MUSIC-X's Keymap screen allows you to control everything from a MIDI keyboard.



You can arrange whole compositions with Music-X's graphical editing screen.



# Public Domain

**Jason Holborn** discovers that you don't need to spend a fortune on expensive commercial software to unleash the graphics power of your Amiga – just take a trip to your local PD library.

**E**veryone knows that the Amiga's greatest asset is its powerful graphic capabilities – whether you're a desktop daubing Degas or a budding Ron Thornton, the Amiga is the machine to own. What's more, you don't have to spend hundreds of pounds on the likes of DPaint or LightWave to realise your Amiga's graphics power – look deep enough and you'll find a mountain of quality graphics software in the Amiga PD libraries, all of which are available for the price of a disk. Better still, why not follow our guide to graphics PD over the next six pages...

## MainActor 1.54

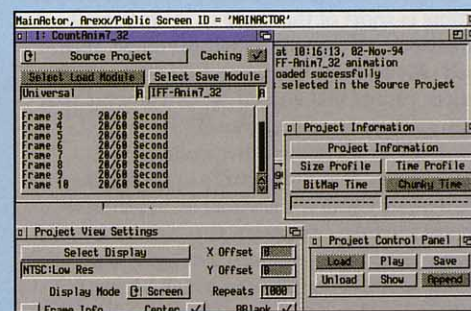
PD Soft V1157

PD animation editors are a little thin on the ground, but that doesn't necessarily mean that what's available lacks quality. Take MainActor,



Convert images stored in different file formats to raw data for use in your own programs with PicCon.

for example. MainActor is a powerful animation editor that has recently been released as a commercial program (version 2.0 onwards). When used in conjunction with a paint program, animations can be pulled together from individual frames in no time at all. MainActor provides full animation editing tools and a powerful range of timing functions



Create your own animations with nothing more than a paint program and a copy of MainActor.

which let you fine tune the playback of your animation to 1/50th of a second.

## IFFConvert

Fred Fish 945

If you still use older graphics packages, then you may find that some IFF images refuse to load as the application is unable to handle newer IFF compression techniques. IFFConvert is a handy utility that lets you convert between compression types – it fully supports normal ByteRun1 compression and a new compression routine that compresses IFF images column by column, rather than row by row.

## PicCon

Fred Fish 938

Programmers need graphic tools too as PicCon on Fish disk 938 proves. PicCon is a utility that uses Workbench 3.0's DataTypes facility to load any picture file format you have a DataType for (JPEG, PCX etc). Once loaded, you can extract (crop) any part of the image and save it in any DataType-supported format. Ordinary bitplanes, 'blitterplanes', chunky pixels and various sprite formats are all supported. An invaluable tool for C and Assembler programmers.

## ConvertHAM

Fish Disk 933

HAM images are fine if you merely want to use them in a slideshow, but they can be a real pain for serious graphics work. The answer, of

## PD laid bare

**What is PD?** PD (short for Public Domain) is a general term that refers to software which is distributed by a PD library, a company set up specifically to handle PD software. Unlike commercial software, no charge is usually made for PD software – instead, you pay a small fee to cover the cost of the disk that the PD library supplies the software on, the cost of postage and a small amount to cover the PD library's costs (duplication, labour and expenses). On the whole, expect to pay no more than £3 per disk (although most libraries charge considerably less).

It's a common misconception that all PD software is free. In fact, very little PD software is technically *completely* free of all copyright. To help you through the PD software jungle, here's a quick rundown of the types of PD software you're likely to encounter.

**FreeWare** – FreeWare is the only type of PD software that is completely free of all copyright restrictions. Not only can you obtain the software without paying a penny for it, but you can even give copies of it to your friends.

**Shareware** – The most common form of copyrighted PD software is shareware. Essentially, it should be treated more like commercial software. Although you can obtain a shareware program without paying for it and even copy it for

your friends, you're morally obliged to send the author a specified donation should you find the program useful and decide to keep it. Most shareware authors rarely charge more than £10 for their wares.

**Licenseware** – Licenseware is a more recent type of shareware that takes the responsibility of paying a shareware fee away from the user by including the registration fee into the cost of obtaining the program from a PD library. As a result, it's an offense to copy a licenseware disk for a friend. Licenseware is often cheaper than registering a shareware program – most licenseware disks cost little more than £4.

**Giftware** – Giftware is like shareware, but instead of sending the authors a donation, you send them a little gift (a box of toffees, a spare mouse, a Lotus Esprit Turbo, etc!).

**CharityWare** – Pioneered by Amiga Shopper contributor, Mark Smiddy, CharityWare is arguably the best of all PD systems as the author simply requests that you send a donation of whatever size your conscience allows to your favourite charity should you decide to keep the program. The author won't check up on you, but skinflints will probably burn in the eternal fires of Hell. Or something.



course, is to convert your HAM images to 'colour mapped' images – that is, images with 2 to 256 colours.

If you can't quite stretch to the cost of a dedicated commercial image processing utility, ConvertHAM is the next best thing. It translates HAM (and HAM8) images to ordinary 2 to 256 colour ILBM images which can be loaded into any paint program.

## ADPro Toolbox

### Rob's Hit Stash #11

One of the most powerful graphics programs available for the Amiga has to be ASDG's Art Department Professional (ADPro to its friends). Although ADPro is a wonderful image processing program, its support for batch processing of images is somewhat weak.

With a copy of ADPro Toolbox on your hard disk, however, ADPro is completely transformed. Similar to the commercial package Multiframe, ADPro Toolbox lets you create batch files which can be used to automate every ADPro operation. An invaluable tool for all ADPro users.

## BigAnim

### Fred Fish 920

Creating animations on your Amiga can be a lot of fun, but there's one big problem – the size of your animations is severely limited by the amount of memory in your Amiga. Not any more, though – enter BigAnim. BigAnim is an animation player capable of 'direct from hard disk' playback of animations complete with user selectable buffer size and playback speed. BigAnim can display IFF ANIM format animations (types 5 and 7) and it makes extensive use of Workbench 3.0's new double buffering support.

## ZGif

### Fred Fish 907

If you're sourcing pictures from a PC-based Bulletin Board, then you'll find that most images will be stored in GIF format. Short for Graphic Interchange Format, GIF files can easily be translated into IFF using ZGif on



*Tired of planet Earth? Create your own demi-paradise with an Amiga and a copy of Scenery (see page 92).*

Fred Fish 907. ZGif is a very fast (and very small) GIF viewing utility.

Designed specifically for AGA-based Amigas, ZGif will also work on ECS machines (although only in grey scale).

## ViewTek

### Fred Fish 903

ViewTek is possibly the most powerful picture/animation viewing utility available for the Amiga. The program happily shows virtually all IFF format images (including 24-bit IFFs), CompuServe GIF format images, JFIF format JPEGs and most ANIM Opt 5 format animations. If you have an AGA-based Amiga, ViewTek happily displays images in 256 colour and HAM8 viewmodes.

ViewTek is one of the most useful PD image tools available. Highly recommended!

## S-Utilities

### Fred Fish 884

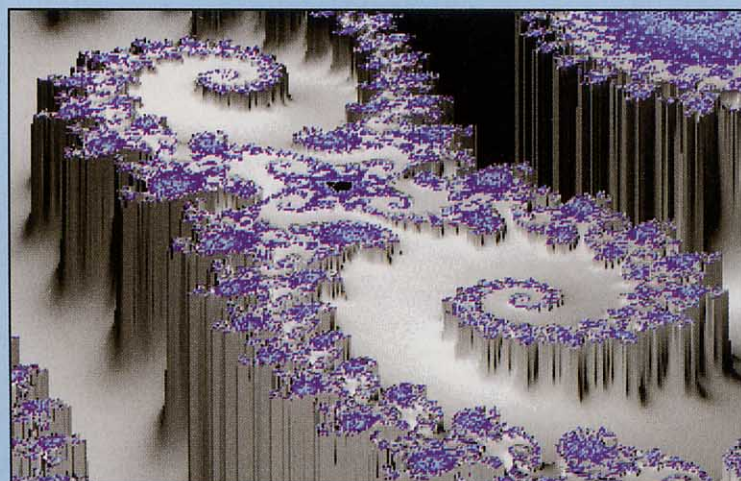
S-Utilities consists of two handy graphic-related tools which should appeal to Amiga

graphics fans. First up is S-Pic which converts any IFF image into a stand-alone executable that can be displayed from the Workbench or Shell without the need for a separate picture viewing utility – simply double-click on the picture's icon and its embedded viewer displays the image.

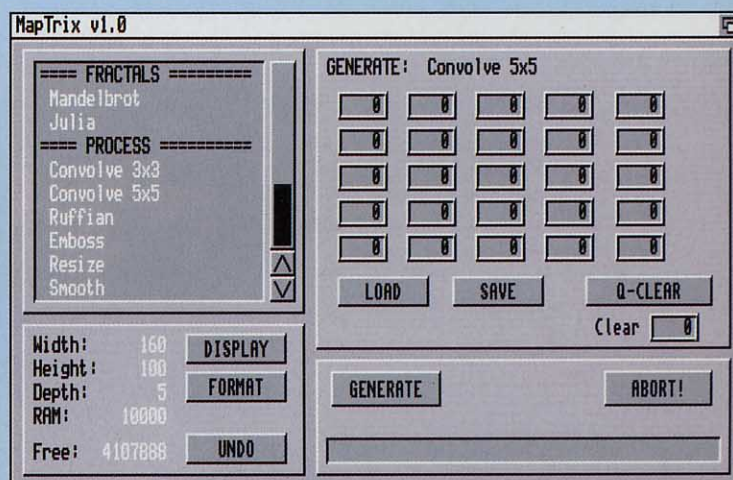
For animation fans, there's also S-Anim which performs the same job on animations. The only restriction is that your animations must be in ANIM 5 format (supported by DPaint and so on).

## FUN WITH FRACTALS

Fractal fans used to be looked upon in the same light as your average train spotter, but not any more – fractals are now *officially* cool. What's more, the range of fractal programs has exploded beyond belief. No longer are you restricted to the more common Mandelbrot and Julia fractals – lurking within the PD libraries you'll find fractal generators that call upon the mathematical wonders of lyapunov space,



*Mandel Mountains (page 92) produces some of the most beautiful fractal images you're likely to see on an Amiga screen.*



*Create impressive brush maps for your ray tracing scenes with MapTrix (page 92) which you will find on Fish disk 853.*





Explore the depths of the mandelbrot set in full 256 colour AGA colour with MandelMania.

► strange attractors, related abstractions, plasma and other equally mind-boggling tools of the fractal trade.

## MandelMountains

**Fred Fish 383**

There are plenty of Mandelbrot generators available, but few produce images as breathtaking as MandelMountains on Fish disk 383. Although the program is so old that it doesn't support AGA screen modes (shame), MandelMountains still produces wonderful images that look a bit like snow-covered mountains. The program creates a Mandelbrot image and then uses the colours in that image to produce an elevated view of the fractal. If you intend to buy only one fractal generator, MandelMountains has to be it.

## Scenery

**Fred Fish 155**

Even if you're not a fan of fractal generators, you cannot help but be impressed by the fractal landscapes generated by Scenery on Fish disk 155.

Scenery generates fractal landscapes from a 'seed' value which you can either enter yourself or the program will randomly generate one for you. You're given full control over the height of the landscape (higher values produce more mountainous peaks), sea level, clouds and the lighting direction. The only problem with Scenery is that the NTSC images it produces are not displayed in full PAL resolution. But, Scenery is still the best PD fractal landscape generator available.

## Lyapunovia

**Fred Fish 877**

Lyapunovia is a relatively little known, but mind-bogglingly colourful type of fractal image, generated from a mathematical formula known as 'lyapunov space'. Lyapunovia pictures vary from colourful candy, to what the

author describes as 'mean metal'. Lyapunovia on Fred Fish 877 provides everything you need to create your own fractal images in full AGA colour. It is an invaluable tool for creating source graphic, textures and backgrounds.

## MapTrix

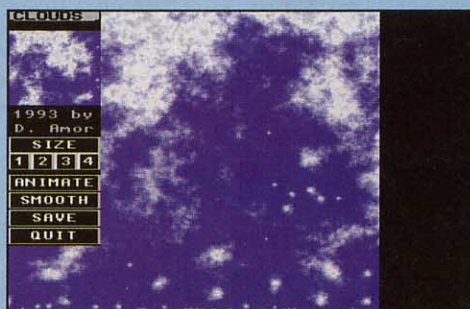
**Fred Fish 853**

If you're a 3D rendering fan, then you'll already know how useful a paint program can be for creating brush maps. MapTrix is a tool that automatically creates all manner of weird and wonderful brush map images for you. It's uses a powerful texture mapping/backdrop generator that features a large number of fractal generators for mountains, clouds, wave synthesis and 'static' generators. The program also includes some rudimentary image processing tools – convolutions, emboss, ruffian etc – which can be further applied to your brush maps.

## MandelMania

**Fred Fish 917**

The best conventional mandelbrot generator has to be MandelMania on Fish disk 917. Written to fully support the A1200's impressive AGA graphics modes (up to 256 colours on screen!), MandelMania produces striking



*Do clouds fascinate you? Do you find cloudless days annoying? Have you ever wanted your own pet Cloud? If so, then you're very strange.*

fractal images in a matter of minutes. If you have a machine equipped with a maths co-processor, MandelMania can be set to take advantage of the chip, further increasing the rate at which fractal images are generated. Add to this the program's impressive ARexx implementation and support for Mandelbrot, Julia and Lyapunov space fractals and it's easy to see why MandelMania is the best Amiga mandelbrot program.

## Slicer

**Fred Fish 836**

Fancy trying your hand at a spot of modern art? You need Slicer.

It is a program designed for creating abstract art based on mathematical functions such as mandelbrots, julia sets, related abstractions and chaotic dynamic systems (whatever they are). The pictures that Slicer creates can best be described as cross sections (or 'slices') revealing the inside of solid objects. In all, a weird, but wonderful, tool for unleashing your graphic talents.

## Plasma

**Fred Fish 779**

Plasma effects used to be all the rage amongst demo coders around five years ago. These days, however, the classic plasma effect has found favour amongst graphics fans – even Almathera Systems' Photogenics (see our Photogenics tutorial on page 76) includes a Plasma generator! Plasma, not surprisingly, is a tool that generates plasma 'fields' which can be used in your own graphic creations. Plasma only works on AGA-based Amigas, however, so anyone who does not own either an A1200 or an A4000 need not apply.

## LandScape

**Fred Fish 554**

Fractal programs come in a variety of different flavours, but the most fascinating has to be the fractal landscape generator. One such program is LandScape, a landscape generator written in the humble AMOS language.

The program features many user-adjustable parameters such as the landscape height, sea level, tree and snow levels, beaches, lighting angles and palette. It can generate 2D 'contour maps' and 3D renders in any one of five rendering modes which offer varying levels of detail and resolution. At its most detailed, a single scene *does* take time to render – up to 30 minutes on an A500.

## Clouds

**Fred Fish 893**

The award for the most obscure Public Domain graphics tool has to go to Clouds on Fred Fish disk 893. Clouds is a program which generates random cloud scenery (I kid you not). You can save the cloud images as IFF files, which can then be used as Workbench backdrops, backdrops for video and general graphics work, or even brushmaps for rendering. Clouds may not sound like the most



# QUALITY AMIGA PRODUCTS

## 24-BIT GRAPHICS FOR A1500/2000/3000/4000 2Mb PICASSO II

**NEW!**



- 24-bit graphics card
- Resolutions up to 1600x1200
- Up to 16.7 million colours
- Emulator integrated into system
- Supports Workbench 2.x, and beyond

Software included:  
 Setup/Installation  
 TV Paint Junior  
 MainActor Pro

**£299**  
 INC VAT - VID 2200  
**FREE DELIVERY**

## PRO 3D DESIGN FOR ALL AMIGAS PIXEL 3D PRO v2.0

**NEW!**



**SAVE £20**

- 3D text creation
- Object creation, editing & handling
- Supports AGA
- Object format conversion - all popular formats
- Complete bitmap and postscript font support
- Colour view modes
- Adapts to larger screen sizes

RRP £149  
**£129**  
 INC VAT - ASP 4000  
**FREE DELIVERY**

## ULTIMATE 3D GRAPHICS & ANIMATION FOR ALL AMIGAS

**SAVE £50**



**LIGHTWAVE 3D - PAL VERSION 3.5**

- 24-bit graphics
- 16 million colours
- Resolutions up to 16,000 x 16,000
- Fast photorealistic rendering
- Texture mapping
- Procedural texturing
- Full ray tracing
- Motion blur
- Field rendering
- Customised lens flares
- Interactive wireframe editing with real-time feedback

RRP £499  
**£449**  
 INC VAT - ASL 6472  
**FREE DELIVERY**

**LIGHTWAVE 3D VIDEO TUTORIALS**

VDO 6000 - **LIGHTING & CAMERA TECHNIQUES**  
 Explains how to give your animations depth & realism.

VDO 6010 - **MAPPING, MORPHING & BONES**  
 Teaches you how to twist, bend & deform objects.

VDO 6020 - **SURFACES & TEXTURES**  
 Explores the power & realism of surface & texture.

VDO 6030 - **MODELER PART 1**  
 Explains the basics of custom 3D modelling.

VDO 6040 - **MODELER PART 2**  
 Techniques on how to shape and modify objects.

**£49.95**  
 INC VAT EACH - SEE LEFT  
**SPECIAL PACK ALL 5 VIDEOS**  
**£199.95**  
 INC VAT - VDO 6050  
**FREE DELIVERY**

## SUPER ANIMATION FOR ALL AMIGAS ANIMATION WORKSHOP v2.0

**NEW!**



**SAVE £10**

- Create, play, add sound process, edit and manipulate animations
- Builds animations as you work
- Uses ADPro or ImageFX when image processing is required
- Supports AGA modes, ANIM5/7/8 formats

RRP £79  
**£69**  
 INC VAT - ASA 5800  
**FREE DELIVERY**

## IMAGE MANIPULATION FOR A1200/A4000 PHOTOGENICS

**NEW!**



**SAVE £5**

- 24-bit graphics and image manipulation package
- Supports popular image formats inc. JPEG, GIF and IFF
- Multiple image editing
- Real-time HAM8 display
- Open design allows you to add your own loaders, savers or effects

RRP £54  
**£49**  
 INC VAT - ASP 3000  
**FREE DELIVERY**

## IMAGE PROCESSING FOR ALL AMIGAS IMAGE FX v2.0

**NEW!**



**SAVE £50**

- 24-bit image processing
- Various Real-time painting tools
- Image thumbnails
- Enhanced text handling
- Expanded image compositing
- AutoFX
- ImageFX browser
- Soft edge and anti-aliasing

RRP £249  
**£199**  
 INC VAT - ASI 2132  
**FREE DELIVERY**

## SOFTWARE OFFERS LIMITED STOCKS

AMOS PROFESSIONAL	RRP £34.95	SILICA £31
AMOS PRO COMPILER	RRP £34.95	SILICA £31
BRILLIANCE V2.0	RRP £89.95	SILICA £59
CANDO V2.5	RRP £129.95	SILICA £99
DATASTORE	RRP £69.95	SILICA £49
EASY AMOS	RRP £34.95	SILICA £30
EDGE 1.7 - PRO	RRP £49.95	SILICA £49
GB ROUTE PLUS	RRP £49.95	SILICA £44
KINDWORDS 3	RRP £29.95	SILICA £14
MAVIS BEACON II	RRP £29.95	SILICA £29
MAXIPLAN 4	RRP £29.95	SILICA £29
VISTA PRO 3.0	RRP £29.95	SILICA £29
WORDWORTH 3.1SE	RRP £69.95	SILICA £49

## PUBLISHING PROGRAM FOR ALL AMIGAS PAGESTREAM v3.0



- Precise typographic control
- Import text and graphics
- Draws boxes, lines etc
- Automatic text flow
- PostScript, Compugraphic Intelligent & PageStream format fonts
- Text/graphics editing palette
- Gradient/radial/shape fills

**SAVE £100**

**£199**  
 INC VAT - ASP 0981  
**FREE DELIVERY**

## PRINTER CONTROLLER FOR ALL AMIGAS STUDIO PROFESSIONAL II

**NEW!**



- 24-bit graphics
- 16.7 million colours
- Workbench drivers for most printers
- Prints pictures from disk using very little memory
- Supports nearly all graphics formats
- Latest dither technology
- Professional Colour Management system

**£49**  
 INC VAT - ASS 8800  
**FREE DELIVERY**

## INCREASE THE SPEED OF YOUR AMIGA FOR A1200

**A1230-II ACCELERATOR & RAM BOARD**

- 40MHz and 50MHz 68030 processor options
- Built-in memory management unit (MMU)
- Kickstart remapping technology (50MHz model)
- Memory disk management software
- Optional 68882 maths co-processor
- 32Mb RAM capability

**FPU OPTIONS**

40MHz 68882 UPG 1982	OR	50MHz 68882 UPG 1996
<b>£100</b> INC VAT		

**SAVE UP TO £130**

40MHz 68030 NO MMU	4Mb RAM £299 INC VAT - UPG 1244	8Mb RAM £629 INC VAT - UPG 1248
50MHz 68030 WITH MMU	4Mb RAM £499 INC VAT - UPG 1540	8Mb RAM £699 INC VAT - UPG 1580

**FREE DELIVERY**

## PAINT PACKAGE FOR ALL AMIGAS PHOTON PAINT V2.0



Illuminate the power of your Amiga with this comprehensive graphics drawing package.

- Full selection of drawing tools
- Contour mapping & 3D objects
- Comprehensive 160 page manual

**SAVE £80**

**£99.95**  
 INC VAT - KIT 4822

**17 YEARS SERVICE TO YOU**

## THE SILICA SERVICE

Before you decide WHEN to buy, we suggest you consider WHERE to buy and protect your investment with a purchase from Silica. With our unrivalled experience and expertise, we will provide all the extra help, advice and new product information you may need both now and in the future. Visit one of our stores, or return this coupon now and begin to experience the 'Silica Service'.



NOW IN 18 BRANCHES OF  
**DEBENHAMS**  
 STORES NATIONWIDE

- ESTABLISHED 17 YEARS:**  
 We have a proven track record in professional computer sales.
- PART OF A £50M A YEAR COMPANY:**  
 With over 300 staff - We are solid and reliable.
- EXPERIENCED STAFF:**  
 All fully trained in 'Customer Care'.
- TECHNICAL SUPPORT HELPLINE:**  
 FREE help and advice from a team of experts.
- A FULL PRODUCT RANGE:**  
 All of your computer requirements from one supplier.
- WE PRICE MATCH:**  
 On a 'Same product - Same price' basis.
- FREE CATALOGUES.**
- PAYMENT:**  
 We accept most major credit cards, cash, cheque or monthly terms (APR 23.8% - written quotes on request).
- VOLUME DISCOUNTS AVAILABLE:**  
 Business, Education and Government. Tel: 0181-308 0888.
- MAIL ORDER:**  
 FREE DELIVERY in UK mainland on orders over £40+VAT. Small administration charge (£2.50+VAT) on orders under £40+VAT.
- 21 STORES NATIONWIDE.**  
 \*Mini Stores carry a selected range only but products can be ordered in the stores via Mail Order.

**MAIL ORDER 0181-309 1111**  
 PLUS TECHNICAL AND HEAD OFFICE

SILICA, SILICA HOUSE, HATHERLEY ROAD, SIDCUP, KENT, DA14 4DX

**PLUS BRANCHES AT:**

BRISTOL	Debenhams - 1st Floor, St. James Barton	0117-929 1021
CARDIFF	Debenhams - 1st Floor, St. David's Way	01222 341576
CHELMSFORD	Debenhams - 2nd Floor, 27 High Street	01245 355511
CROYDON	Debenhams - 2nd Floor, 11-31 North End	0181-688 4455
GLASGOW	Debenhams - 1st Floor, 97 Argyle Street	0141-221 0088
GUILDFORD	Debenhams - 1st Floor, Millbrook	01483 301300
HARROW	Debenhams - 2nd Floor, Station Road	0181-427 4300
HULL	Debenhams - 2nd Floor, Prospect Street	01482 325151
IPSWICH	Debenhams - 2nd Floor, Westgate Street	01473 221313
LONDON	Silica - 52 Tottenham Court Road	0171-580 4000
LONDON	Debenhams - 1st Floor, 334 Oxford St	0171-580 3000
LUTON	Debenhams - 1st Floor, Arndale Centre	01582 21201
MANCHESTER	Debenhams - 2nd Floor, Market Street	0161-832 8666
PLYMOUTH	Debenhams - 1st Floor, Royal Parade	01752 266666
ROMFORD	Debenhams - 1st Floor, Market Place	01708 766066
SHEFFIELD	Debenhams - 1st Floor, The Moor	0114-276 8611
SHEFFIELD	Debenhams - 1st Floor, Meadowhall Ctre	0114-256 9779
SIDCUP	Silica - Silica House, Hatherley Rd	0181-302 8811
SOUTHAMPTON	Debenhams - 1st Floor, Queensway	01703 223888
SOUTHEND	Keddes - 2nd Floor, High Street	01702 462426
THURROCK	Debenhams - 1st Floor, Lakeside Centre	01708 863587

**SILICA**



**COMPUTER SHOPPER**  
 1994 Awards  
 WINNER  
 Best Software  
 Delivery Service



**COMPUTER SHOPPER**  
 1994 Awards  
 NOMINATION  
 Best After  
 Sales Service

To: Silica, AMSHP-0495-236, Silica House, Hatherley Rd, Sidcup, Kent, DA14 4DX

**PLEASE SEND ME AN AMIGA CATALOGUE**

Mr/Mrs/Miss/Ms: ..... Initials: .....

Surname: .....

Company (if applicable): .....

Address: .....

Postcode: .....

Tel (Home): .....

Tel (Work): .....

Which computer(s), if any, do you own? .....



TO ORDER BY PHONE OR FAX  
TEL (01924) 366982 FAX: (01924) 200943  
All major cards inc Switch & American Express  
TO ORDER BY POST  
Send Cheques/PO's Payable To:  
17 BIT SOFTWARE  
1st Floor Offices, 2/8 Market Street  
Wakefield, W. Yorks WF1 1DH

DISK PRICES  
All PD Disks Are Now  
**ONLY £1.00 EACH!**  
1 Free With Every 10 You Order!  
UK Postage 50p On Disk Orders  
Europe Add 10% R.O.W. Add 20%  
Of Total Order Value  
Min Overseas Postage £1.00

PLEASE NOTE  
Disks With (AB) Etc. After The Number  
Denotes A Multiple Disk Title.  
PLEASE STATE WHEN ORDERING  
Send An S.A.E. For A Complete  
List Of Our PD. Licenceware  
And CD-ROM Titles

## AMIGA CD ROM SOFTWARE

**ASSASSINS CD**  
Hundreds Of Games  
For All CD Platforms  
Including CD32! Runs  
From CD! £19.99



**THE LIGHT ROM**  
Objects, Images, Maps  
Scenes & Attributes For  
Imagine & Lightwave  
Users! Superb! £39.99



**RAYTRACING VOL 1**  
Another CD Full Of  
Objects, Textures &  
Attributes. Excellent  
£19.99



**RAYTRACING VOL 2**  
3D Object Overload!  
If You Raytrace, You  
Really DO NEED These  
Superb CD's £19.99



**TOWN OF TUNES**  
Superb Compilation Of  
1000 Of The Very Best  
Music Modules Around.  
Includes Utils! £19.99



**IMAGINE 3 ENHANCER**  
Contains Exclusive Data  
Covering Objects, Maps,  
Fonts, Backdrops,  
Demos & Gallery £49.99



**ULTIMEDIA VOLUME**  
Megabytes Of Images,  
Textures, Sounds & Pix.  
IFF, GIF, WAV, FLIC Etc  
Inc. Utils Too! £14.99



**ULTIMEDIA VOLUME 2**  
Even More Animations,  
Images in GIF, IFF,  
Sound In WAV Etc!  
Superb!! £14.99



**IMAGINE CD**  
Yet Another Collection  
Of Textures, Objects,  
Backgrounds & Attribs  
For Imagine! £39.99



**AMIGA DT VIDEO CD!**  
Superb CD For Anyone  
Interested In Desk Top  
Video. Includes DTV  
Fonts, Clips Etc £14.99



**THE AMINET SET 1**  
4 CDS! Includes All  
Aminet To Date And  
Even More New Stuff!  
Unbeatable at £34.99!



**GOLDFISH 2 CD ROM**  
Twin CD Pack That Has  
Everything Released By  
Fred Fish Since Disk  
1000! Superb! £29.99



17 BIT COLLECTION (2 CD'S)	£34.99	EUROSCENE CD	£14.99
1700 PD Disks Over 2 CD's!		Superb European Demos & Music	
17 BIT CONTINUATION	£19.99	GIFS GALORE CD	£19.99
Disks From 2801 to 2800 & More!		5000 GIF Pictures From 40 Categories	
17 BIT PHASE 4	£19.99	HOTTEST 4 CD	£19.99
Disks From 2801 To 3351!		Latest PD Disks From PD-Soft	
AMINET II (February 94)	£17.99	LSD & 17 BIT COMPENDIUM	£19.99
Mods, Demos, Utils & games.		LSD Legal Tools, Demos, Mods Etc!	
AMINET III (July 94)	£17.99	MICROCOSM	£19.99
More Utils, Games, Mods Etc.		Superb Cinematic CD32 Game.	
AMINET IV (November 94)	£17.99	MULTIMEDIA TOOLKET	£19.99
Latest Aminet, 330 MB New Data.		5000 24 Bit Pix, Mods, SFX, Etc.	
AMOS USERS CD	£19.99	MUSIC MOD & SOUND FX	£9.99
Source, Sprite & Music Banks Etc.		2800 Modules & Over 6300 Samples!	
CDPD 1	£9.99	NETWORK CD	£14.99
Fred Fish From 1 To 660		Link CD32's To Any Other Amiga	
CDPD II	£9.99	NETWORK CABLE	£19.99
Fred Fish From 661 To 760 & More!		Cable For Use With Network CD	
CDPD III	£9.99	PRO FONTS CD	£19.99
Fred Fish From 761 To 890 & More!		4000 Adobe, 1500 TT, 200 CG & More!	
CDPD IV	£9.99	SPACE & ASTRONOMY CD	£19.99
Fred Fish From 891 To 1000 & More!		GIF Images Of Deep Space & Nasa Texts	
CLIPART & FONTS (USA)	£9.99	SOUNDS TERRIFIC CD	£19.99
EPS, IFF & PCX Clipart & Fonts		2 CD S Contains Over 1.2 GB Of Mods!	
DEMO CD	£9.99	VIDEO CREATOR	£29.99
650MB Of Classic Demos Etc.		Create Great Dance Videos On CD32!	
DEMO CD II	£9.99	WEIRD SCIENCE CLIPART	£9.99
Demos, Intros, Mods & Anims!		EPS, IMG, IFF, Pagestream, Pagesetter+	
BCI NET DECEMBER 1994	£17.99	WEIRD SCIENCE FONTS	£9.99
More Aminet Archives! NEW!		CG, Adobe, IFF, PCX, PS & More!!	

### LSD COMPENDIUM DELUXE II

**IN STOCK NOW! £19.99**

FULL AMIGAGUIDE MENU, SEARCH FACILITY, ONLINE AGA  
DEGRADER AND MORE OF THE SAME SUPERB DEMOS, PIX,  
UTILS & GAMES AS BEFORE!

## AMIGA PUBLIC DOMAIN

3569 (AB) MAG.E ISSUE 7  
Popular Sci Fi/RPG Mag  
3568 LETHAL FORMULA  
Graphic Adventure Game  
3567 POKER MANIA  
Good Computer Poker Game  
3566 F1 DEMOS  
Inc. Erik, Jr Artist & Ultimate Quiz  
3565 THIRD DIMENSION #10  
The 3D Cons. Kit disk mag  
3564 SAMURAI SHOWDOWN  
Demo Version. Beat Em Up  
3563 GRAPHIC UTILS #2  
Utils & magic WB Icons  
3562 (AB) TRAVEL GUIDE  
Travel Guide To The World  
3561 CYBERPUNK NOW #4  
Lots of Cyber Related Articles  
3560 NEW UTILS #5  
Latest Utils Stash!  
3559 DESERT ISLAND DICK  
Funny B & W Animation  
3558 (AB) MAD HOUSE  
Superb Lucas Arts Style Adv.  
3557 ROBS HOT STASH #29  
Includes Viruschecker 6.50  
3556 FINAL WRITER PATCH  
Speeds Up Final Writer By Up To 400%!  
3555 WORLD HISTORY TIMETABLE  
Hyperbook History Program  
X3554 (AB) DOVE DEMO BY ABYSS  
Superb Demo From Party 4  
X3553 (ABC) VIRTUAL DREAMS  
Best Ever AGA Demo!! HD. Required  
3552 (ABC) IMAGINE OBJECTS  
Starwars Objects, Xwings, Ywings Etc  
3551 MUI V2.3  
Latest Magic User Interface  
3550 (ABC) LION KING CLIPART  
Lots of Cute Hi Res Cliparts  
3549 SUICIDE MACHINE  
Operation Wolf With Furry Animals!  
3548 VIRUS WORKSHOP 4.7  
Kill Those Nasty Viri!  
3547 AGA ICON DISK  
More 256 Colour Icons  
3546 HD GAMES INSTALLER 2  
Installs Over 20 Differents Games  
3545 PHASE 4 INDEXER  
Adds Front End. 2 Drives Req.  
3544 JUMBO JAM  
Overhead Driving Game  
3543 INTERNAL COMBUSTION  
Another Super Sprint Clone  
3542 ROB'S HOT STASH 28  
Another Hot Utils Comp.  
3541 ROB'S HOT STASH 27  
Includes Latest Virus Z II  
3540 IMAGINE BITS & BOBS  
Inc. Arexx Scripts For Imagine 3  
3539 GAMES DISK  
Top Hat Willy & Crazy Challenge

3538 MAGIC SELECTOR V1.40  
Changes Backdrops & Adds SFX.  
3537 TERM V4.2 EXTRAS  
Includes Libs & Locale  
3536 TERM V4.2 030 + VERSION  
Archived with NO Installer!  
3535 TERM V4.2  
000 Version With Docs.  
X3534 LION KING CARDSETS  
For You Know What!  
3533 THIRD DIMENSION #9  
3D User Magazine  
3532 DYSK-STIK V1.1  
Superb Disk Label Printer!  
3531 ON FORM V1.33  
Superb Invoice Printer  
3530 ADDRESS PRINT V4.4  
Address & Mailshop Prog.  
X3529 PERIHELION CARDSET  
Fantasy/Sci Fi Cardset  
X3528 RIPPING YARNS CARDSET  
British Cartoon Raunch Cardset!  
X3527 SHERYLIN FENN CARDSET  
Saucy Klondike Cardset  
X3526 VIPER AGA  
6 Player Light Cycles. Shareware  
3525 ROBS HOT GAMES #11  
Loads Of New Games  
3524 MINIMORPH V1.1D  
Latest Morphing Package  
3523 MAGIC WB ICONS  
Yet Another Disk Full!  
3522 ROBS HOT STASH 26  
Includes Exotic Ripper V3.0b  
3521 NEW UTILS  
Includes new Jpeg Datatype  
X3520 NORMAL CARDSET  
For Klondike AGA  
3519 VISUAL ARTS V2.0  
Very Powerful GUI Designer.  
3518 ZAXXON  
Superb C64 Classic Conversion!  
X3517 (ABCD) KILLING TIME DEMO  
Stunning 4 Disk AGA Demo  
X3516 (ABCD) TWISTED AGA  
Another Superb AGA Demo!  
X3515 NEXUS 7  
AGA Demo By Andromeda  
X3514 (AB) MOTION OMGIN 2  
More AGA Excellence  
X3513 (AB) PREY  
AGA Demo By The Polka Bros  
X3512 ROOTS  
AGA Demo By Sanity!  
X3511 (ABC) WHAMMER SLAMMER  
Good Multipart AGA Demo  
X3510 (AB) SOUL KITTEN  
Great!! By The Silents!  
X3509 APEX AGA  
More Demos For Your A1200  
X3508 (AB) OXYGENE DEMO  
You Guessed! AGA Demo!

### F1 LICENCEWARE

1 DISK SET £3.99 2 DISK SET £4.99 3 DISK SET £5.99

F1 061	CAPTAIN CARNAGE	F1 046	MAZE MADNESS
F1 060	THE ULTIMATE QUIZ VOL 1	F1 045	T-TEC MAZE
F1 059	PUNTER V2.0	F1 044(3)	BLACKBOARD V3.0
F1 058	BLAST EM!	F1 043 (5)	MAGPIES CLIPART
F1 057	COLOUR MATHS	F1 042 (2)	KIDS CLIPART
F1 056	GIDDY II	F1 041	GP MANAGER 94
F1 055(3)	AMOSZINE #4	F1 040 (2)	HENRY'S HOUSE
F1 054	OFF YOU GO	F1 039	TWO CAN PLAY
F1 053	WHEELIE	F1 038	AMBASSADOR PRO
F1 052	OPERATION FIRESTORM	F1 037	SUPER BINGO V2
F1 051(2)	INTRODUCING WBENCH	F1 036	MONEY CASCADE
F1 050(2)	ABS.BEG. GUIDE.AMOS	F1 035 (3)	CHILLY CHAVEZ
F1 049(3)	AMOSZINE #3	F1 034	F1 CHALLENGE V2
F1 048	ERIK	F1 033	POWERPLANNER V1.1
F1 047	F1 MUSIC VOLUME 4	F1 032	WORD POWER V2.0
		F1 031	POWERBASE V3.30
		F1 030	FORTRESS 1 MEG



## Paint for FREE!

The most popular type of graphics package has to be the paint program. Popularised by the likes of DPaint and Brilliance, the PD libraries offer a selection of quality paint programs which will let you experiment with computer art. Eat your heart out Warhol!

### FreePaint

Fred Fish 627

Public Domain paint programs are a little thin on the ground, but the programs that are available are generally very good. Take FreePaint, for example. Although it doesn't rival Brilliance or DPaint, it is still a very good paint program that should appeal to younger children. It provides a user interface similar to DPaint and a healthy selection of paint tools, including freehand, curved lines, boxes and so on. Don't expect AGA support, however - 32 colours is as far as FreePaint goes! As a no-nonsense paint program, however, FreePaint is ideal.

### Graffiti

Fred Fish 620

Another paint program worth investigating is Graffiti on Fish disk 620. Although not quite as powerful as DPaint, or as accessible as FreePaint, Graffiti offers a number of special features not normally found in PD paint programs. These functions include: autoscrolling support (create



Although it doesn't support the AGA chipset, FreePaint is the best PD paint program available.

massive images), image conversion between screen modes (convert a 32-colour low resolution image to 16-colour high res, for example), a very fast magnify tool and so on. It's unlikely that you'll find the program particularly useful if you already own a commercial paint program, but users on a tight budget may still want to give it a look.

### Borealis Junior

Central Licenseware CLE040

Paint programs like DPaint are fine for the computer literate, but younger children can often

find them somewhat inaccessible. Borealis Junior, on the other hand, is a paint program designed specifically for younger children. As a result, much effort has been put into the program's user interface to make it as easy to use as possible (although it's arguable whether the author actually achieved this). All the usual paint tools are there, but do bear in mind that this is a paint program for kids, so don't expect to find complex perspective drawing and brush mapping tools! There are, however, a number of unique tools (Rainbow, for example) which are aimed specifically at children.

### SpectraPaint

Scanner 3, Disk 2

Written in Europress' AMOS, SpectraPaint is a PD paint program that borrows more than a few tricks from its commercial counterparts. Like DPaint, most of SpectraPaint's painting tools are accessed from a icon-based toolbar that runs horizontally (rather than vertically) along the bottom of the screen.

The program doesn't support either HAM mode or AGA screen modes, but all colour mapped pre-AGA modes are handled well. Pictures can be saved and loaded in IFF format and there's a full selection of brush manipulation and drawing tools to keep the creative juices flowing. SpectraPaint doesn't quite match up to its commercial cousins, but it's more than adequate as a tool for touching up artwork.



Create ANSI artwork with the ease associated with a pixel-based paint program with HyperANSI.



HAMLab lets you convert more image formats than you can shake a stick at!

can't quite stretch to the cost of Personal Paint, SIRDS on Fish disk 763 is just as good. It can generate and print stereogram images from any standard IFF image.

### HAMLab

Fred Fish 726

It may only be a demonstration version, but HAMLab on Fish disk 726 still provides a number of useful tools. This latest version is essentially a picture format conversion utility that can convert GIF, IFF, JPEG, Targa, BMP, TIFF, PBMPLUS, MTV, Spectrum 512, QRT and Sun raster files into IFF (HAM, colourmapped and halfbrite). HAMLab images can be scaled, dithered, colour corrected and cropped. The only limitation imposed by this demo version is that the program is limited to a maximum image size of 512x512 pixels.

### IFSLab

Fred Fish 696

If you thought that a mandelbrot generator produces weird images, then you should take a

look at IFSLab on Fish disk 696. IFSLab is an 'iterated function system' fractal generator that apparently focuses on the 'collage theorem'.

It allows you to draw an approximate outline of the planned fractal and then create the fractal directly from actual reduced images of the outline that you manipulate and deform with the mouse. The 'attractors' of the resultant IFS codes can be rendered in black and white or greyscale and then saved on to disk as IFF images. This is definitely one for the hardened fractal fan only.

### FBM

Fred Fish 678

ADPro it may not be, but you may still want to check out FBM. FBM is an Amiga port of the 'Fuzzy Pixmap' image manipulation library popular on Unix systems. This package allows you to manipulate and convert a variety of colour and black and white image formats.

The program provides support for a number of formats including: Sun Rasterfiles, GIFs, IFFs, PCX, PBM, raw bitmaps, 'Face' files and FBM files. It also has input converters for raw images like DigiView views and output converters for Postscript and Diablo graphics. Besides doing format conversion, the program also provides image processing tools, including: rectangular extraction (cropping), density and contrast changes, rotation, quantisation, halftone greyscale conversion, edge sharpening and histograms.

### DrawMap

Fred Fish 639

If you ever need to draw a map of any part of the Earth, then reach for a copy of DrawMap. DrawMap is a powerful graphics tool that

92 useful graphics utility available, but it's one of those programs that you really need to use to fully appreciate.

### HyperANSI

Fred Fish 851

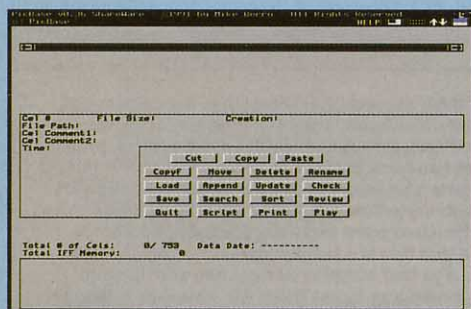
Falling neatly between Comms and graphics work is HyperANSI on Fred Fish 851. HyperANSI is an 'ANSI' paint program - that is, a paint program designed specifically for creating artwork from the ANSI character set used by Bulletin Boards. BBS SysOps will find this tool invaluable, as it provides all the tools you'd expect from a paint program, making the process of creating your own ANSI artwork that little bit easier.

### SIRDS

Fred Fish 763

Unless you've spent the last couple of years mining salt in deepest Siberia, you cannot have helped but notice how popular Stereogram images have become - even Cloanto's Personal Paint includes a stereogram generator! If you





**PicBase lets you keep track of your IFF image files without having to view each individually.**

generates representations of the Earth's surface. The program uses data from the Micro World Data Bank and lets you select (or de-select) such features as coastlines and rivers. You're also given full control over the level of detail in each map. The program's only major problem is its system requirements – your Amiga must be equipped with at least 1.5Mb of RAM and 1.6Mb of free hard disk space.

## PicBase

Fred Fish 527

Keeping track of a large number of IFF image files and brushes can be difficult, so PD author Mike Berro created PicBase, which you'll find on Fish disk 527. PicBase is a sort of mini-database program that lets you organise and manage all your IFF images and brush files.

The program displays a monochrome miniature 'thumbnail' representation of each file, complete with information on that file, such as its full pathname, creation date, file size, image size and depth, display mode and so on. The images are displayed four at a time and can be scrolled in real-time, manually or automatically sorted and even displayed as a slideshow. An indispensable tool for all graphic artists.

## PIXEL PUNCHERS SHOOT-OUT!

There are plenty of Public Domain image processing utilities available, but few can claim to *seriously* rival commercial image processing packages such as ImageFX and ADPro. Two programs that can hold their heads up high, however, are Blackboard V3 and ImageStudio, both of which deliver serious image processing power for the price of a disk. Which should you choose? There's only one way to find out...

## Blackboard V3

F1 Licenseware

Version 3 of Blackboard is a three disk affair that has undergone some serious debugging since Blackboard V2 was last reviewed in Amiga Shopper. It's no longer freeware either – now living under its licenseware label, you'll have to shell out £5.99 if you want to get your hands on the full version. Thankfully, all the great old features are still there, including

morphing (create smooth transitions between one image and another), ADPro-like warping, pixelation, embossing and Blackboard's own unique bulging tool. Although printed documentation isn't included, an AmigaGuide document is provided.

Like ADPro, Blackboard uses a modular design with each feature held on disk as a separate sub program which is pulled in only when it's needed. This approach does have its advantages and disadvantages – the main disadvantage being that, because each 'operator' needs to be loaded into memory before it can be used, the program can slow down a tad. The good news, however, is that Blackboard is less memory-intensive, so you don't need a porky Amiga to get it up and running.

Amongst the new features offered by version 3.0 of Blackboard are 'Land Build' and 'Ripple' operators.

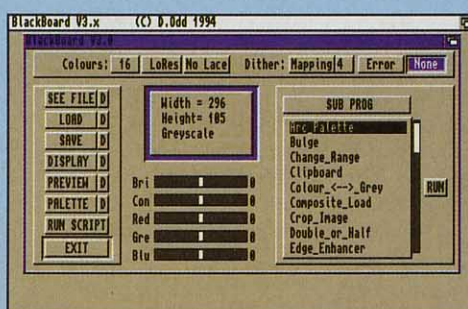
The Ripple operator works in a very similar way to its ADPro namesake – by creating water-like ripples on the 'surface' of an image. Use this feature in combination with Blackboard's extensive AREXX support and it's quite possible to create some fantastic animated ripple effects.

Land Build, on the other hand, is a fractal landscape generator along the same lines as VistaPro and Scenery Animator that creates fantastic fractal landscape images. One of the most powerful aspects of this function is its support for VistaPro .DEM files which can be loaded and utilised within Blackboard.

Blackboard V3.0 shows some real potential, but it is let down terribly by the presence of a large number of bugs. If the author were to iron these out, however, Blackboard V3.0 could eventually become a real threat to commercial image



**Modelled heavily on ASDG's ADPro 2.5, ImageStudio shows real promise. Let's just hope that the author continues to develop the program!**



**Blackboard is the most powerful PD image processing program available, but it's crippled by a large number of bugs.**

processing packages. If you can live with the bugs, give Blackboard a whirl (or should that be a ripple?).

## ImageStudio

17 Bit Software

This young contender certainly looks the business – especially when compared with Blackboard's rather dowdy front end. Judging by the interface, the author has definitely been influenced by ADPro 2.5's new Workbench 2.0-like front end.

Like ADPro, the interface consists of a main preview window (which displays a rendered preview of your bitmap data) and several smaller 'convolution', effect and balance control windows. It also makes extensive use of standard Amiga pull-down menus which allow access to many of the program's functions. In terms of presentation and professionalism alone, ImageStudio leaves Blackboard for dead.

Like Blackboard, the author of ImageStudio isn't going to give his creation away completely free of charge – although the PD version may suit most people's needs, you'll need to send the author £10 if you want the registered (and fully functional) version. The unregistered version offers the same functions of its big brother, but you're limited to a maximum image size of 250x250 pixels. The full version, on the other hand, can handle image sizes up to 32,000x32,000 pixels and – for A1200 owners – the author also includes a special '020+' version of the program.

One of ImageStudio's most impressive tools is its impressive Custom Convolution Editor, which effectively lets you create your own image processing tools simply by editing the values in the convolution matrix. Convolutions take a little time to get used to, but fans of Cloanto's Personal Paint should feel right at home, as both programs share the same image processing technique.

ImageStudio is an impressive program, especially when you consider that this is still only the first version! It's a good solid performer with a healthy selection of image processing tools. Whilst none of them are going to seriously rival ADPro, all the firm favourites are there in force. It still isn't quite as powerful as Blackboard, but at least it's not bugged – if you could combine the power of Blackboard with the ease-of-use of ImageStudio, you'd end up with a seriously impressive PD image processing program.

## RENDERING ON A BUDGET

Ray tracing and solid modelling has rapidly established itself as one of the most active areas of Amiga graphics. Ever since Ron Thornton and his extremely talented team of animators amazed the world with the underwater sequences within SeaQuest DSV and his out-of-this-world Babylon 5 space scenes, Amiga ray tracing fans have been heavenly inspired.



[illegible]



96 ► Here's a quick guide to some of the best solid modelling and ray tracing software the PD libraries have to offer.

## Tree4D

Fred Fish 586

Got a copy of ByteByByte's Sculpt 4D rendering program? Want to create your own 3D trees for that rendered forest scene you've been working on? OK, so maybe not, but if you ever feel the need, Tree4D is for you. Tree4D is a little program that creates fractal 3D trees complete with leaves suitable for Sculpt 4D (or indeed any rendering program when used in conjunction with an object converter like Pixel 3D Pro). The program provides full control over many aspects of your trees, including their shape, level of detail and colour. Fine.

## RayShade

Fred Fish 707

A complete ray tracing package for the price of a disk? You'd better believe it! RayShade is a ray tracing program ported to the Amiga from Unix. The program offers 11 different types of primitives (cubes, spheres, toruses etc), composite objects, a variety of light sources, texturing, bump mapping, antialiasing, linear transformations, rendering of stereo pairs and even full support for animations.

Although RayShade may not be quite as friendly as the likes of LightWave, perseverance definitely reaps rewards as the demonstration images supplied with the package aptly show. A real PD classic.

## ISL

Fred Fish 845

Fans of Impulse's powerful rendering program Imagine may find ISL on Fish disk 845 a useful addition to their software collections. ISL – short for Imagine Staging Language – is a decompiler/compiler which allows you to



*You don't need to wait twenty years to grow a decent tree with a copy of Tree4D!*

create and modify Imagine staging files (the files that define where objects are in 3D space) in a manner that provides far more flexibility and the sort of 'nitty gritty' control than that provided by Imagine itself.

## DKBTrace

Fred Fish 513/514

It may not be the friendliest program available for the Amiga, but DKBTrace is very, very powerful indeed.

DKBTrace is a two-disk freely distributable ray tracing program that takes a text-based description of your 3D 'scene' and renders it as a 24-bit image file, which can be displayed on a 24-bit card, or converted to a HAM image. The program boasts sophisticated textures, constructive solid geometry and a host of graphic primitives such as quadrics (cones, cylinders and so on), quadrics (doughnuts etc) spheres, planes and triangles. If you can live

without the fancy tri-view editor, DKBTrace produces some impressive results.

## Contour4D

Fred Fish 586

Contour 4D is a program that creates coloured, altitude-mapped objects suitable for Sculpt 4D. Two IFF brushes are used – one to supply the colour palette for the object and a second which acts as a sort of altitude bump map. To keep the object sizes down, the program automatically optimises your objects so that large areas of one colour and height become a single polygon. The program works perfectly well with colour mapped, HAM and HalfBrite images. 3D fans should give it a try.

## Vertex

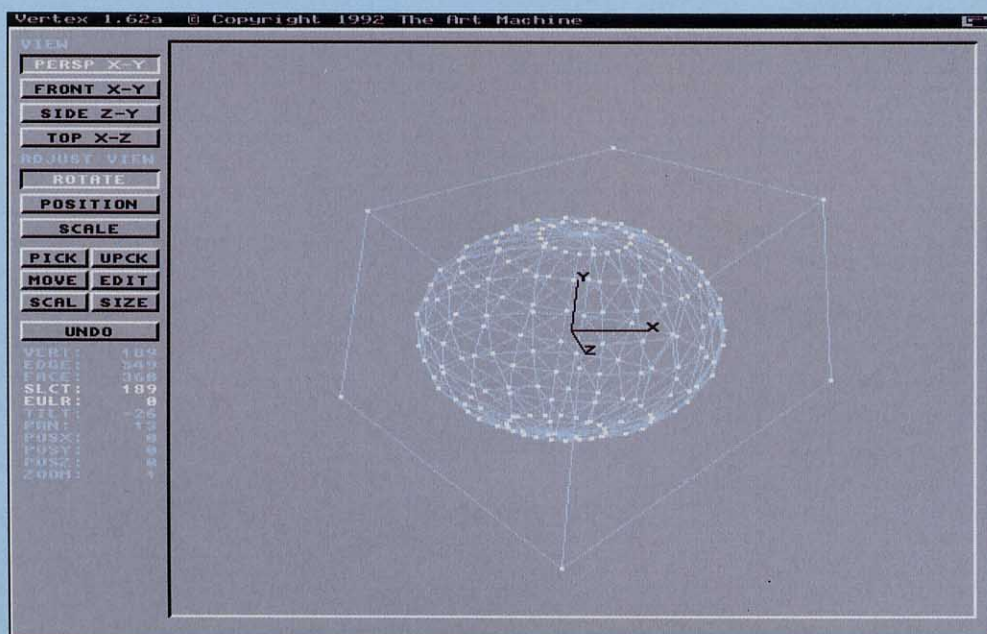
Fred Fish 727

You may think that the PD libraries would be hard pushed to compete with commercial 3D modelling tools, but that all changed when Alexander Deburie launched his Vertex program. Vertex is a PD object editor which works somewhat differently from commercial offerings. For starters, it allows you to edit and examine objects from any view (including perspective). The view can be rotated, positioned and scaled using the mouse or by entering values. Well worth a look.

## Icoons

Fred Fish 775

3D modelling fans should stick Fish disk 775 at the very top of their PD shopping list. Icoons is a spline-based 3D object modelling utility which can be used to generate objects in TTDDD format. TTDDD files can then be converted to a variety of different 3D object formats using the T3DLIB shareware package included. The program offers line and flat mode solid rendering, as well as gourad and phong shading. It does have one major limitation, however – you must have an Amiga equipped with a maths co-processor. ■



*Vertex is designed as an alternative object modeller for a wide variety of rendering packages.*

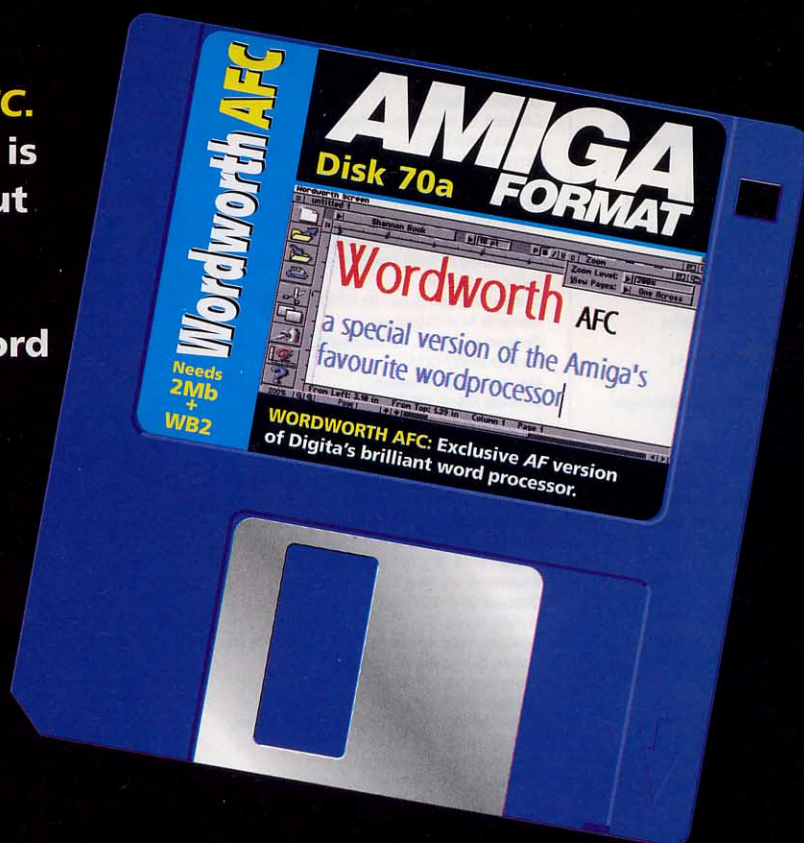


WORKING  
WITH  
WORDS



# Wordworth Exclusive!

Don't miss  
**Wordworth AFC.**  
This Coverdisk is  
not a demo, but  
an exclusive  
edition of the  
*Wordworth* word  
processor,  
created  
especially by  
Digita for  
**Amiga Format**  
readers.



**AMIGA  
FORMAT**

**Issue 70 On sale  
Thursday March 16**

AMIGA  
FORMAT  
G  
D  
W  
R  
D  
I  
S  
K  
7  
0  
A  
F  
C  
A  
P  
R  
I  
L  
1  
9  
9  
5  
1  
6



# Talking Shop

*A pretty varied bunch of letters this month, ranging from problems and suggestions, to congratulations for the revamped Amiga Shopper...*

**W**e've received sackloads of competition entries and Reader Surveys in the Amiga Shopper office, but there's a noticeable lack of Talking Shop letters. So come on you lot, let's have your views and ideas and, remember, you could win £25 if your contribution is chosen as the star letter of the month.

## Satisfied customer



£25 Winner

I wonder if you were aware of the consequences that would arise following your decision to put a Datastore file on the Amiga Shopper 47 Coverdisk?

Fortunately, I was able to go to Canterbury

and buy issue 68 of Amiga Format before it sold out and hence was able to use the demo of Datastore. Looking at the data in the Amiga Format files was interesting enough; I only opened it so as to compare it with Pen Pal. However, when I opened the A>S. files I was dumbstruck by the amount of information that the fields showed.

Fortunately, or perhaps unfortunately, for me I have scattered about every issue of Amiga Shopper from day one and now I have been forced, *forced* I say, to put them in order, so that I can find the articles in which I have become interested through having seen them in the database. This has meant that I have to spend even more time in the Computer Room (sorry, spare bedroom) to the chagrin of my wife and family to whom I have become a wraith that they see only if they look very hard for me.

I just *had* to write and comment about this absolutely brilliant Datastore file you made. Thanks very much!

T. H. Connell  
Whitstable, Kent

*And thank you for your kind words, T. H. Now you've won £25 for sending in the letter of the month, you can drag yourself away from the Computer Room and take your wife and children to the pictures!*

## A lot of cheek

It's about time we had a lass for an editor, but, let's face it, your magazine hardly had a superb content did it? Before you tear this paper into tiny bits muttering (or indeed shouting) 'cheeky bastard', read on a bit – this is a criticism of the constructive kind, in the form of suggestions.

You need to get the readers more involved in the magazine and I don't mean letters and Q&A (by the way, do you write them yourself and say they're from the readers, like dodgy mags found on the top shelves of grotty newsagents?). Your back page caption competition was a good step towards the sort of thing, but you could go further.

How about giving your readers the chance to design the front cover of your fine magazine, do an article on how your art editor

(or whoever) does a typical front cover, i.e. specifications, deadlines allowed, how subject is chosen etc? This does have its drawbacks, because you will have to disclose what you will be looking at in two months time which is asking for competition.

What about an article written by a reader once a month, not unlike (how's that for a double negative) the columns by Jeff Walker and Tim Smith in your sister magazine, Amiga Format? In other words, just an extended letter on something to do with computers. Give a prize for the best, or just leave it open for a budding/want-to-be/has-been reporter.

Give us a few music mods on the Subscribers' disk to build up my collection of 124 mods. Also, whilst putting a mod file on the disk, could you put two particular fonts on there as well, the one which you use for the main text in the magazine (because it's easy to read) and the one which looks like hand writing on Next Month (page 122, issue 47)?

My final suggestion is, could you fix up an interview with the programmer/designer of Photogenics, because I believe he is only 17 (or so I read somewhere). If this is true, he is definitely going to be a major influence on the Amiga market for a long time.

Benjamin Nicholl  
Stockton On Tees, Cleveland

*Firstly, I am always happy to get suggestions from readers for features they would like to see in Amiga Shopper. We are also always looking at ways in which we can get the reader more involved with the magazine, which is partly why we ran a Reader Survey in the last issue.*

*We have a Photogenics tutorial starting this month on page 76. I have noted your suggestion for an interview with the creator and for the competition for readers to design the cover. I'm not sure how feasible that would be – our covers are normally connected with the main feature of the particular issue, but I will give the idea some thought.*

*We never make up the questions and answers in Amiga Answers ourselves – they are all genuine queries, supplied by our readers. We ask people to send in their questions every month (see page 71) and we always receive plenty of questions which are passed on to our panel of experts to answer.*

*I have passed your suggestion about including more music mods on our Subscriber's disk on to Graeme (who compiles it) and his exact words were: 'What a good idea' – so expect to see some appearing in the near future!*

## Disk blues

I am sorry to say that I've run into difficulties with my Amiga Shopper Subscribers' disk 47. I have tried AIBB6.5 and it works OK, but Filthy Lucre and Lottery Winner are both causing trouble.

Lottery Winner keeps putting up a Guru No 800000003, which says it is an address zero 'attempt to read or write a long word that is an uneven address'. I have copied the program again from the original disk in case it was a copying error, but the error remains.

Filthy Lucre keeps telling me it cannot find

## Bits and pieces

**Perhaps he was a little set in his ways, but it was a rather severe shake-up to oust poor old Baggers.**

N Papadopoulos  
Lokridos, Greece

*We have no intention of ousting Mr Baguley – he will be appearing regularly in the magazine as a freelance writer. Check out his modem supertest on page 26.*

**My word, what a change! On first inspection, it seems a great improvement, with more in-depth articles, more news, more PD, a brilliant new layout and, of course, the new Coverdisks. Fantastic, but one problem is the hefty hike-up in the price. For a magazine that started out a few years ago at less than a pound, to now costing four times as much is quite a jump.**

Ed Freeman  
Rugby, Warwickshire

*You've said it yourself, Ed. We've improved the paper quality, gone full colour, increased the number of pages in the magazine and added two Coverdisks. Add to that the fact that paper and printing prices have increased considerably over the years and the £3.95 price makes more sense.*



## Subjects of interest



**What machine would you like 'Commodore' to produce next?**

**Write in to Talking Shop and tell us what you want from a new Amiga.**

And if you have any suggestions for features, or anything else that you would like to see in your favourite Amiga magazine, then write to us at Talking Shop.

The star letter of the month gets £25. Now wouldn't that come in handy?

Womble Font and it certainly doesn't appear to be on the disk. There was a note in the leaflet about the possibility of having to copy fonts and Libs to my own Fonts and Libs directories, but I can't find either of these directories on the disk – the only one is 'C'.

Hooray! Last month, I wrote to you asking you to put out an index on disk and, lo and behold, there it is. You had obviously been planning it long before I wrote. Will you publish updates, or must we get typing to keep it up-to-date?

I haven't sent the disk back to the copiers, because I thought it better to wait and see what you could tell me. I mean, if there are no Fonts or Libs on my disk, there are not likely to be any on the other disks, are there and everyone is in the same boat.

Hoping you can help.

W. B. Tarbuck  
Davyhulme, Manchester

*Sorry you're experiencing problems, W. B. Can you give us a little more information about the difficulties you're having with Lottery Winner – for example, which Amiga are you using, what version of Workbench are you running and how much memory do you have? We need all this information in order to work out exactly what your problem is.*

*Filthy Lucre. Er... We forgot to put the Womble Font on the disk. Ooops! It will appear on the May ShopperChoice disk.*

## Ch, ch, ch, changes...

I very much welcome the long overdue changes to Amiga Shopper. Issue 47 was the best issue that I have seen. The new layout is better and the Coverdisks are appreciated.

Jason Holborn's Public Domain review will be a very valuable reference and Dave Haynie's supertest of programming languages is the most comprehensive I have seen in an Amiga magazine and, as a result, I have finally made a choice of languages in which to start programming AMOS.

I would like to draw your readers' attention to a couple of matters concerning the Public Domain review. Show STD is a useful program, but Julian Wright's fine PD program Dialling Codes V1.5 is a Phone Day ready and I would suggest that as the best phone code program. Readers who order Fish Disk 721 do get a

pleasant surprise, because included on that disk is V1.62 of Chris Hames's DirWork which, like SID, is an excellent directory utility and preferred by some reviewers to SID.

Finally, I can strongly recommend Scion (the present version is 3.13) – it is easy to use and works beautifully.

A. G. Kelly  
Yate, Avon

*Another happy reader – your comments are appreciated A. G.!*

## A few suggestions...

After seeing the first issue of your new-style Amiga Shopper I have a few suggestions.

I am sure many people agree that the return of a regular AMOS tutorial would greatly improve the magazine. The previous series was to me very successful and certainly warrants a successor.

I also think that there should be a greater selection of software or hardware reviews. Maybe it was just this issue, but these certainly rank highly on my first-read list when I open the mag.

Lastly I would like to see more Comms features on subjects like Fidonet and local

BBSs, as well as the mighty Internet. I know you do one-off features on these subjects, but a regular column on Fidonet and the Internet would be nice.

Colin Gray  
Prestwick, Scotland

*I would be interested to hear if any other readers want to see the return of an AMOS tutorial. Please write in to Talking Shop and let me know.*

*As to the software and hardware reviews, you will notice that, as well as a huge modem supertest (page 26), we have 10 pages devoted to reviews of new products this month and we intend to squeeze as many as we can into each issue from now on.*

*And if you turn to page 82, you will find that our regular Comms tutorial is all about the Fidonet – you must be psychic.*

## Price explosion!

I am a subscriber to Amiga Shopper and I have just received my renewal letter. This offered me a fantastic deal to renew my subscription – £47.40 for 18 issues. How much? I think you may have missed the point, like Cantona misses Man Utd. OK, it's a good deal with six free issues and Subscribers' disks, but I cannot

## Can you do better?

### Win £25!



**Take a look at the back cover of this issue of Amiga Shopper, then at the picture printed below. Can you come up with a witty Amiga Shopper- (or, indeed, Amiga-) related caption to use on the back-cover of a future issue? If your wit surpasses the Amiga Shopper team's (though we doubt it, of course), then we'll send you a cheque for £25.**

If you think you can do better, then send your witticism to:

**Can you do better?,  
Amiga Shopper,  
Future Publishing,  
30 Monmouth Street,  
Bath BA1 2BW.**

Entries to arrive at Amiga Shopper no later than Friday, 14th April.



**The Beatles at the Palace, 1965.**



**Write to Talking Shop**

To add your contribution to any of the debates going on this page, send your letters to:

**Talking Shop, Amiga Shopper,  
Future Publishing,  
30 Monmouth Street,  
Bath BA1 2BW.**

Alternatively, you can E-mail them to:  
**Letters@Amshop.demon.co.uk**  
(Internet)  
**2:2502/129.1 (Fidonet)**  
**240:370/0.50 (Mercurynet)**

All letters received at these addresses will be considered for publication unless you specifically advise us otherwise.

afford £50 in one go. The last thing I read before this letter came was that subscribers would not be charged any more for renewing. What happened?

I will renew if you can offer me 12 issues at the old price of £30, but can afford no more.

The new mag is much better looking though, but put decent PD on the Coverdisks.

Yours in debt.

**Chris Firth**  
Cowes, Isle Of Wight

*I'm glad you like the new look of the magazine. As to the subscription changes, the price has increased because of the two new Coverdisks. Over the next year we have some tremendous titles lined up to put on those disks and, remember, as a subscriber you get a special third disk too every month.*

*If you subscribe now, you will be getting 18 issues of Amiga Shopper for the price of 12 (see page 60 for details) – that's equal to £2.63 per issue – which, for a magazine with two Coverdisks is amazing value for money. As for paying for it all in one go... yes, I agree, it may be difficult for some people – that's why, from the May issue, we will be offering our readers a six month direct debit option.*

**Oh dear...**

There are several contradictions within what is your main feature. In the main article, you say that the Z5 has five Zorro slots with the first mention, stating that they are for Zorro III cards, but in the two sub features 'The Mark Of Zorro' and 'Ramiga Z5 vs A4000 vs A4000T' it states that the Z5 is equipped with four Zorro slots.

This leaves me totally confused, but then it would appear that Richard Baguley is too.

In paragraph 13 of the main feature, it states "...but only three of the 3 1/5 inch bays have holes at the front. The two bottom drive bays are behind the panel for the buttons and the clock display. This means that you could have a hard disk located in the bottom drive bay, with the floppy disk drive located in the one above..." But Richard, didn't you just say:

'The bottom two drive bays are behind the panel for the buttons and the clock display?'

**Michael Cofferon**  
Swansea, West Glamorgan

*You are right, Baggers got a little confused in his main feature last issue. The Z5 actually adds five Zorro II slots to your A1200. And, you're right again, he's not very good with numbers, is he? Next time, I'll tell him to take his shoes off too!*

**Missing details**

First, I'd like to congratulate you on Shopper's new look. At last we have a professional-looking magazine for this underrated platform.

I am a newcomer to the Amiga from the Mac (which I still use). However, I cannot help but notice a number of details missing concerning the representation of a serious software section in this mag that I would like to be included:

1. There are no tutorials – or 'how to' – sections on imaging and processing software, such as Image FX2.0, AdPro, TV Paint and the brilliant Photogenics.

I am a devout reader of Amiga- and Mac-related journals. TV Paint is to me a top painting and processing package, yet I cannot get to witness this through any Amiga publication.

2. Because my main interest is DTP, I

would like to see more on this subject. Yes I am an optimist, but that optimism is built on what I know this platform to be capable of.

I must also take this opportunity to chastise the majority of advertisers in Amiga journals for not mentioning multitasking and CrossDOS in their copy. We must assume that once in a while somebody out there will be picking up this mag, looking to purchase his/her first or second computer... like me.

Oh, can someone tell me where I can purchase CrossMAC (I hope it comes standard in system 4.0)? Once I am satisfied with the inclusions of the above, not only will I subscribe, I'll sell my Mac as well.

All in all, Amiga Shopper is a great mag with a capacity to become even greater. Thanks very much for your support.

**Angelo Szymanek**  
West Hampstead, London

*1. As I mentioned in an earlier answer, if you turn to page 76, you'll find the first of Graeme's six-part Photogenics tutorial and, on page 90, the PD section is devoted to graphics packages.*

*2. We intend to include more DTP features and tutorials in forthcoming issues of Amiga Shopper – at the moment we are planning a supertest on BubbleJet printers, for example – hopefully for the June issue of AS.*

*Your best bet is to check all the advertising pages in this issue for suppliers of CrossMAC. ■*

**Advertisers' index**

Advertiser	Page	Telephone No.
1st Computer Centre	2,101	☎ 0113 2319444
17 Bit Software	94	☎ 0113 2319444
Almathera	47	☎ 0181 6870040
Amiga Format	102-103	☎ 01225 442244
Analogic	70	☎ 0181 5469575
Arnor	68	☎ 01733 68909
Chartscreen (UK) Ltd	98	☎ 01425 475515
Classified Section	108-109	
Digitia International	21	☎ 01395 270273
Emerald	15	☎ 0181 5432258
Future Leisure Books	74-75	☎ 01225 442244
Just Amiga Monthly	70	☎ 01895 274449
LH Publishing	80	☎ 01908 370230
MEMS	88	
Mode 15	68	☎ 01258 837398
Noble House	98	
Owl Associates	109	☎ 01543 250377
Paradigm	66	
PD Soft	97	☎ 01702 466933
Power Computing	23, 115	☎ 01234 843388
Ramiga	36, 52	☎ 01690 770304
Selectafont	80	☎ 01702 202 8350
Shops Directory	113	☎ 01225 442244
Silica	59, 65, 93	☎ 0181 309 1111
Siren Software	9, 33	☎ 0161 7247576
Underground PD	101	☎ 01702 295887
Videoworld	101	☎ 0141 6411142
Villagetronics	30	☎ 0049 50667013
Wizard Developments	50-51	☎ 01322 272908



# Next<sup>month</sup>

Anna  
Shamms has sent another  
interview over from the States  
and Gary says his copy for the  
Piccolo SD64 graphics card will  
be in soon.

Sue

We need to get the Amiga Shopper  
reader awards from issue 46 (February)  
compiled so we can print the results.  
Arrange to collect the plaque for 'the  
Amiga Person of the Year'.

Graeme

We need to make sure that  
Tim from Total Guitar has the  
Boom Box Coverdisk and  
manual so he can get on  
with the disk instructions.

Sue

Toby's new DICE tutorial  
starts this month and you  
need to ask him for the  
Assembler stuff too. And  
remind Graeme to start his  
second Photogenics tutorial.

Graeme

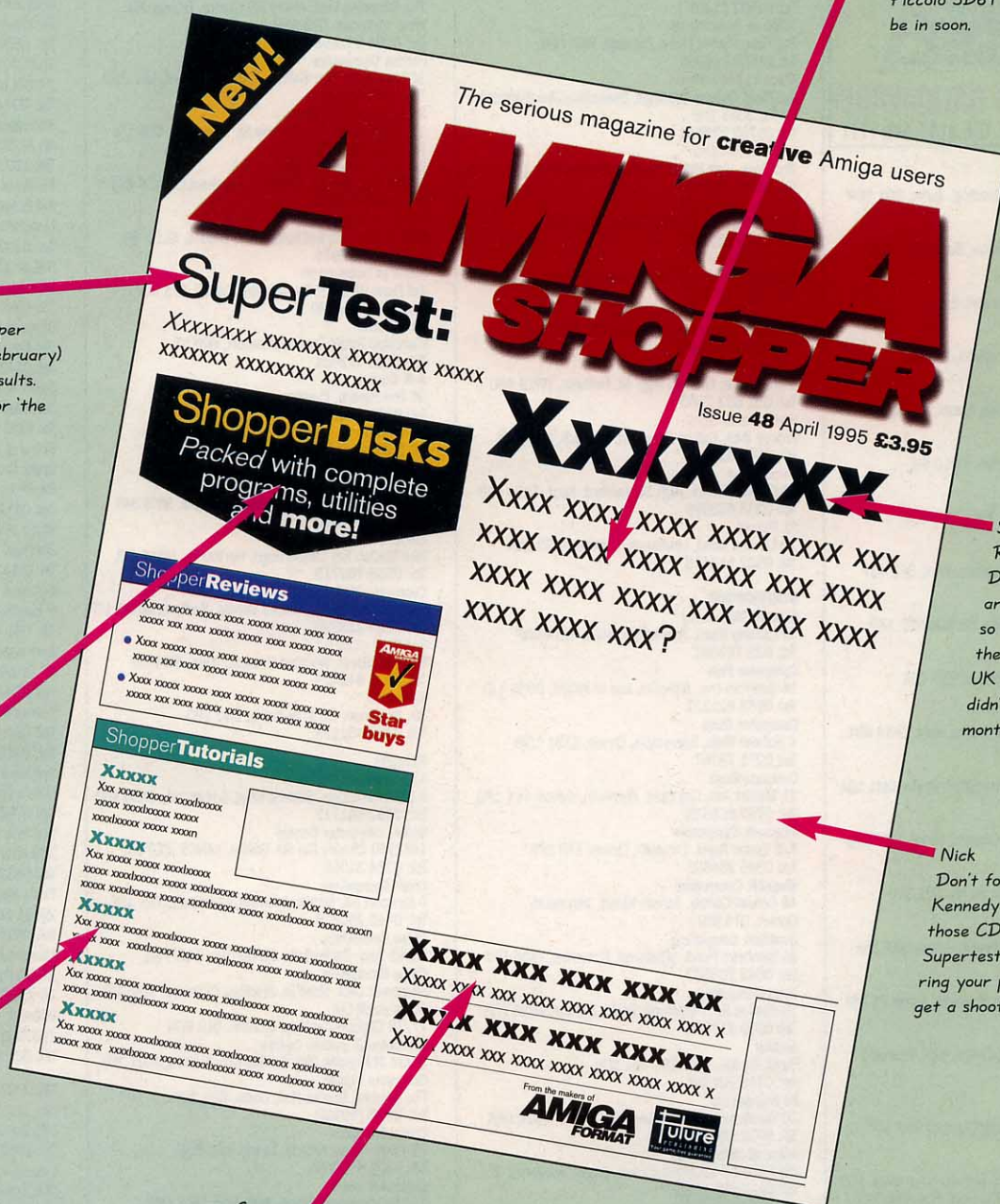
Make sure that all those readers' questions get  
sent out to the experts for Amiga Answers and  
I've asked Jason to write the Public Domain  
feature on business packages.

Sue

Remember to phone  
David Pleasance to  
arrange an interview  
so we can talk about  
the latest Commodore  
UK situation. (Hang on,  
didn't you say that last  
month? - Reader)

Nick

Don't forget that John  
Kennedy is sending us all  
those CD-ROMs for the  
Supertest and you need to  
ring your photographer and  
get a shoot arranged a.s.ap.



**May** issue **49** on sale Tuesday **4th April**



Next Day **£5.00**

2-3 Days **£2.50** Saturday **£10.00**

Deliveries are subject to stock availability

Allow up to 7 days for cheques to clear



TELEPHONE **01234 273000**

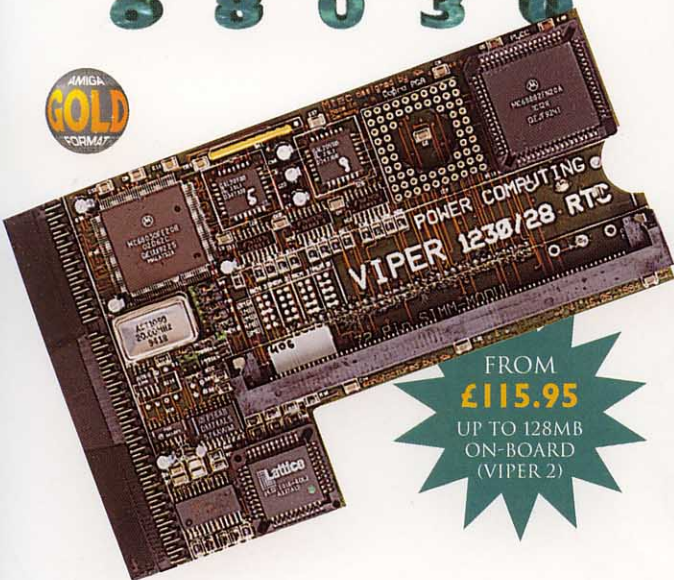


POWER COMPUTING LTD  
44a/b Stanley St. Bedford MK41 7RW  
Tel **01234 273000** Fax **01234 352207**



# VIPER

## 68030



FROM  
**£115.95**  
UP TO 128MB  
ON-BOARD  
(VIPER 2)

### VIPER 68030 SERIES

- RAM Up to 8MB (Viper 1)/128MB (Viper 2)
- Full Kickstart Remapping
- Optional SCSI-II adaptor
- On-board battery backed clock/68882 Co-processor
- Instruction and data burst modes

#### Viper -1 28MHz

PGA/PLCC, FPU upto 50MHz

Bare Board ...**£115.95**

4MB Viper ...**£249.95**

8MB Viper ...**£399.95**

#### Viper -1 33-42MHz

PGA/PLCC, FPU upto 50MHz

Bare Board ...**£169.95**

4MB Viper ...**£299.95**

8MB Viper ...**£439.95**

#### Viper -2 28MHz

PLCC only, FPU upto 40MHz

Bare Board ...**£135.95**

4MB Viper ...**£269.95**

8MB Viper ...**£419.95**

#### Viper -2 40MHz EC

PLCC only, FPU upto 40MHz

Bare Board ...**£199.95**

4MB Viper ...**£329.95**

8MB Viper ...**£469.95**

#### Viper Co-processors

28MHz FPU .....**£25**

33MHz FPU .....**£60**

40MHz FPU .....**£80**

50MHz FPU (PGA) **£110**

#### Viper Options

SCSI-II Adaptor ...**£79**

4MB SIMM .....**£139**

8MB SIMM .....**£299**

Other SIMMS ...**£POA**

**£59.95**  
STORE  
1.76MB

AMIGA GOLD FORMAT

**XL 1.76MB**

The XL Drive 1.76MB measures half the height of a standard external floppy drive and allows you to store a massive 1.76MB on a high density disk. The A4000 internal drive fits perfectly underneath the original drive and no case-cutting is required.

**EXTERNAL .....£59.95**  
**INTERNAL .....£55.95**  
**A4000 INT. ....£55.95**

**£99.95**  
STORE  
3.5MB

AMIGA GOLD FORMAT

**SUPER XL 3.5MB**

The Super XL Drive is the only floppy drive of its kind on the market! This drive can store a massive 3.5MB on one extended density floppy disk, without needing to compress the file.

**EXTERNAL .....£99.95**  
**INTERNAL .....£95.95**

**£49.95**  
INC. FLOPPY  
EXPANDER

AMIGA GOLD FORMAT

**POWER DRIVE**

The Power Drive now includes Blitz Amiga and Floppy Expander, free. Floppy Expander allows you to compress files on floppy disks by up to 50%. Other features include: Anti-Click, Anti-Virus, Isolation Switch, 2 Year Warranty, Thru'port, Cyclone Compatible Chip, Backup Hardware and Blitz Compatible

**EXTERNAL .....£49.95**  
**CYCLONE S/W ONLY £10.00**

**£30.95**  
A500  
INTERNAL

BLUE CHIP AWARD

**INTERNAL DRIVES**

Our internal drives use the same drive mechanisms as the Amiga to ensure complete compatibility.

**PC881 A500 .....£30.95**  
**PC882 A2000 .....£30.95**  
**PC883 A600/1200 .....£35.95**

All products have a 12 month warranty unless otherwise specified

Trade and Educational orders welcome - Worldwide distribution available

All prices include VAT. Specifications and prices are subject to change without notice, all trademarks are acknowledged. All orders in writing or by telephone will be accepted only subject to our terms and conditions of trade, copies of which are available free of charge on request.





Pic: Hulton Deutsch

"Emergency technical writer 102 is rushed, under police escort, to the **Amiga Shopper** offices, when it is discovered that Graeme Sandiford has successfully built an escape tunnel. Graeme was later found wandering around the local branch of Dixons."

**AMIGA**  
**SHOPPER**

The essential magazine for Amiga enthusiasts

**WARNING! READING AMIGA SHOPPER EVERY MONTH COULD SERIOUSLY  
ENHANCE YOUR AMIGA COMPUTING**